DOCUMENT RESUME

ED 136 514 EC 100 029

TITLE	Informal Diagnosis and Prescriptive Programming: A Follow-Up Workshop.
INSTITUTION	Drake Univ., Des Moines, Iowa. Midwest Regional Resource Center.
SPONS AGENCY	Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
PUB DATE	[77]
CONTRACT	OEC-0-74-7899
NOTE	300p.; For related information, see EC 100 028 and EC 100 030
EDRS PRICE	MF-$0.83 HC-$15.39 Plus Postage.
DESCRIPTORS	Behavioral Objectives; *Diagnostic Teaching; Educational Diagnosis; Elementary Secondary Education; Inservice Education; Learning Processes; Material Development; *Multiply Handicapped; *Severely Handicapped; Task Analysis; *Teacher Education; Teacher Educator Education; *Workshops

ABSTRACT

The second of a series of three workshops on working with severely multiply handicapped students, the document reviews material presented in the first workshop and examines implementation of the informal diagnostic and programming skills. Presented as review are the following inservice modules: defining the problem and identifying what will meet the student's need, task analysis, error pattern analysis, systematic inquiry, discovering what the child can and can't do, behavioral objectives, task analysis of materials, and matching learner characteristics with material characteristics. Three additional modules cover the topics of student learning methods, ways to modify materials, and implementation of informal diagnostic and prescriptive skills. Each module contains three sections-facilitator notes, activity notes, and activity sheets-which serve as guidelines for the workshop trainer. Appended are evaluation procedures. (CL)

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INFORMAL DIAGNOSIS AND PRESCRIPTIVE PROGRAMMING: A FOLLOW - UP WORKSHOP

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EC 100029

This document was developed pursuant to contracts with the Office of Education, Department of Health, Education and Welfare, Bureau of Education for the Handicapped, contract number OEC-0-74-7899. The opinions expressed herein, however, do not necessarily reflect the position or policy of the U. S. Office of Education, and no official endorsement by the U. S. Office of Education should be inferred.

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Overview

Informal Diagnosis and Prescriptive Programming: A Follow-Up Workshop is the second of a series of three workshops. It is designed to review material presented in the first workshop in the series, Informal Diagnosis and Prescriptive Programming: A Workshop. It also presents some new and expanded material to the participants and gives them an opportunity to ask questions concerning the implementation of these informal diagnosis and prescriptive programming skills. It can be completed in two days.

Informal Diagnosis and Prescriptive Programming: A Workshop, the first in the series, requires five days to complete. It teaches the participants the basic skills they need to implement this alternative approach to meeting the needs of children experiencing learning problems.

The Workshop for Training In-Service Facilitators is the third workshop in the series. It is designed to be presented in three days. This workshop has two major parts. One segment teaches participants the different roles in-service facilitators and participants can play and how these roles can affect the group's capacity to learn. It also teaches participants how to use communication skills, such as paraphrasing, when conducting workshops. The second part presents skills necessary to organize and conduct workshops. In this segment, participants learn specifically how to organize and conduct the informal diagnosis and prescriptive programming workshops in this series.

After each participant has completed all three workshops in the series, he will receive the facilitator's notebook and be prepared to disseminate this information to others.

In the follow-up workshop, eight of the modules are presented primarily to serve as a review of the original Informal Diagnosis and Prescriptive Programming: A Workshop. They are: Defining the Problem and Identifying What Will Meet the Student's Need, Task Analysis, Error Pattern Analysis, Systematic Inquiry, Discovering What the Child Can and Can't Do, Behavioral Objectives, Task Analysis of Materials, and Matching Learner Characteristics with Material Characteristics.

The remaining three modules contain new and expanded information pertinent to informal diagnosis and prescriptive programming skills. These are: Learning Methods, Modifying Materials and Implementing Informal Diagnosis and Prescriptive Programming Skills.

By the end of the workshop, the participants will have defined this child's problem and identified what will meet his needs, completed a task analysis, error pattern analysis and systematic inquiry for each of the child's worksheets and subtest, prioritized the child's learning needs, written long and short range behavioral objectives and a learning sequence for him, and analyzed and evaluated an educational material that they are considering using with him.

This workshop, like the others in the series, is designed to actively involve the participants in learning the skills presented. It is the facilitator's responsibility to circulate among the participants as they are completing the activities to assist them if they need help and to check their work to be sure they are grasping the concepts. The manner in which the facilitator does this is one of the keys in establishing an effective learning climate.

All of the modules in the workshop are expected to be adapted to meet the individual needs of the workshop participants. The activity notes are to be used by the facilitator in a manner consistent with his/her facilitator style. They are not to be considered scripts, but rather guides.

Every module contains three sections titled "Facilitator Notes," "Activity Notes," and "Activity Sheets." These are designated by the blue, green, and yellow pages. Some of the modules contain sections for "Worksheets," "Recording Sheets," "Activities Completed by Previous Participants," "Demonstrations" and "Articles." These are also designated by different colored pages.

Participants are asked to bring to the workshop several worksheets and a subtest that a child who has been referred to them has completed. They are also asked to bring with them an educational material they are considering using with the child. Examples of worksheets are included in case some participants neglect to bring theirs.

If possible, when xeroxing materials for the participants to use, it is suggested that all "Activity Sheets" be xeroxed on one color of paper, e.g. on blue, "Recording Sheets" on green, etc. This helps the participants keep the large amount of paper distributed to them in better order.

In the Appendix, there is an example of the type of memo that the facilitator should send to the participants at least three weeks before the workshop. Such a memo should:

1. Remind them of the date and place.

2. Ask them to bring with them:

a. at least two academic worksheets that a child who has been referred to them has completed. These worksheets should be from the academic area in which the child was referred (e.g. reading, math, etc.)

b. at least one subtest that was administered to the same child in the area in which he was referred.

c. at least one instructional material that would be appropriate for the child.

d. the book, Essentials of Teaching, by Barbara Bateman that they received in the first informal diagnosis and prescriptive programming workshop.

e. notebook and paper.

The Appendix also includes three evaluation procedures. All of these are optional.

The one titled Evaluation Form provides the facilitator with information that will assist him in evaluating his own presentation and in deciding if the module needs to be modified. The facilitator may distribute this form at the end of every module or only at the end of those on which he wants that kind of information. He may also use it at the end of the workshop to evaluate the whole workshop.

The second evaluation device included in the Appendix is a test to evaluate the participant's knowledge gain. Instead of giving a pre-test at the beginning of this workshop, it is recommended that the facilitator use the post-test results from the Informal Diagnosis and Prescriptive Programming: A Workshop as the pre-test results for this workshop. Then, at the end of this workshop, the test should be given again. The results of these two tests can then be compared to assess the progress made by the participants.

The third method for evaluating the workshop is an outside assignment to be completed by the participants and mailed to the facilitator. An example of this is also included in the Appendix.

Schedule for the Follow-Up Workshop

First Day

- Introductory Presentation
- Defining the Problem and Identifying What Will Meet the Student's Need
- Task Analysis
- Error Pattern Analysis
- Systematic Inquiry
- Summary of Defining the Problem and Informal Diagnostic Techniques
- Discovering What Skills a Child Can and Can't Do and Setting Priorities

Second Day

- Behavioral Objectives
- Learning Methods
- Task Analysis of Materials
- Modifying Materials
- Matching Learner Characteristics with Material Characteristics
- Implementing Informal Diagnosis and Prescriptive Programming Skills
- Final Summary

FACILITATOR NOTES

Facilitator Notes for the Introductory Presentation

This presentation includes a warm-up activity in which participants become re-acquainted and a lecture which gives an overview of this workshop and explains the evaluation procedures.

Materials Needed for the Module

Facilitator Materials

- Activity Notes
- transparency of Continuum of Services
- overhead projector
- marking pens

Participant Materials

- 1 sheet of blank paper per participant

Time Needed to Complete the Module

This activity takes approximately twenty-five minutes to complete.

ACTIVITY NOTES

Activity Notes for the Introductory Presentation

1. Before we actually begin our workshop, let's get re-acquainted. Please take about five minutes and write down on a piece of paper:

   a. your name,

   b. where you're from,

   c. three things that have happened to you since our last workshop.

2. After you're finished, pin your paper onto yourself.

3. Then walk around the room and read what each other has written. Take about ten minutes to do this.

(AFTER TEN MINUTES, ASK THE PARTICIPANTS TO RETURN TO THEIR SEATS.)

4. Let's review some of the workshop "ground rules." We will try to begin promptly and also end on time.

5. There will be one hour for lunch. We cannot set a definite time for lunch because it will depend on where we are in the module being presented.

6. If you know that you will be missing any part of the workshop, please see me so we can make some arrangements.

7. Feel free to go for coffee or the rest room when you wish.

8. Also, please feel free to ask questions and make comments. We appreciate your input.

9. Any questions or comments?

10. We will ask you to take a test at the end of the workshop. Also, at that time, we will be giving you an assignment in which you will apply informal diagnostic and prescriptive programming skills with a child who has been referred to you by a teacher in your school district. Please don't worry about this assignment; after you have finished the workshop, it should be very easy to complete.

11. This workshop is the second in a series of three. The first workshop was entitled Informal Diagnosis and Prescriptive Programming: A Workshop. It was presented in five days. It taught the basic skills you need to implement an alternative approach to meeting the needs of children experiencing learning problems.

12. The second workshop, Informal Diagnosis and Prescriptive Programming: A Follow-Up Workshop is designed to review the previously presented material, present some new and expanded material, and answer any questions that you may have concerning implementing these skills. This workshop requires two days to complete.

13. The third workshop, Workshop for Training In-Service Facilitators, is designed to be presented in three days.

14. This workshop has two major parts. One segment teaches participants the different roles in-service facilitators and participants can play and how these roles can affect the group's capacity to learn. It also teaches participants how to use communication skills, such as paraphrasing, when conducting workshops. The second part presents skills that people need in order to organize and conduct workshops. In this segment, participants learn specifically how to organize and conduct the informal diagnosis and prescriptive programming workshops in this series.

15. After you have completed all three workshops in the series, you will receive the facilitator's notebook and be prepared to disseminate this information to others.

16. In the follow-up workshop, eight of the modules are presented primarily to serve as a review of the original workshop. They are: "Defining the Problem and Identifying What Will Meet the Student's Need," "Task Analysis," "Error Pattern Analysis," "Systematic Inquiry," "Discovering What the Child Can and Can't Do," "Behavioral Objectives," "Task Analysis of Materials," and "Matching Learner Characteristics with Material Characteristics."

17. The remaining two modules contain new and expanded information pertinent to informal diagnosis and prescriptive programming skills. These are: "Learning Methods" and "Implementing Informal Diagnosis and Prescriptive Programming Skills."

18. You were asked to bring to this workshop worksheets and a subtest that a child who has been referred to you has completed and an educational material you are considering using with the child. By the end of the workshop, you will have defined this child's problem and identified what will meet his needs, completed a task analysis, error pattern analysis and systematic inquiry for each of the child's worksheets and subtest, prioritized the child's learning needs, written long and short range behavioral objectives and a learning sequence for him, and analyzed and evaluated an educational material that you are considering using with him.

(PUT CONTINUUM OF SERVICES TRANSPARENCY ON THE OVERHEAD.)

19. Once again, we will work within the framework of the Continuum of Services.

20. We first must identify the problem.

21. Next, we must diagnose the problem.

22. We then design a prescription.

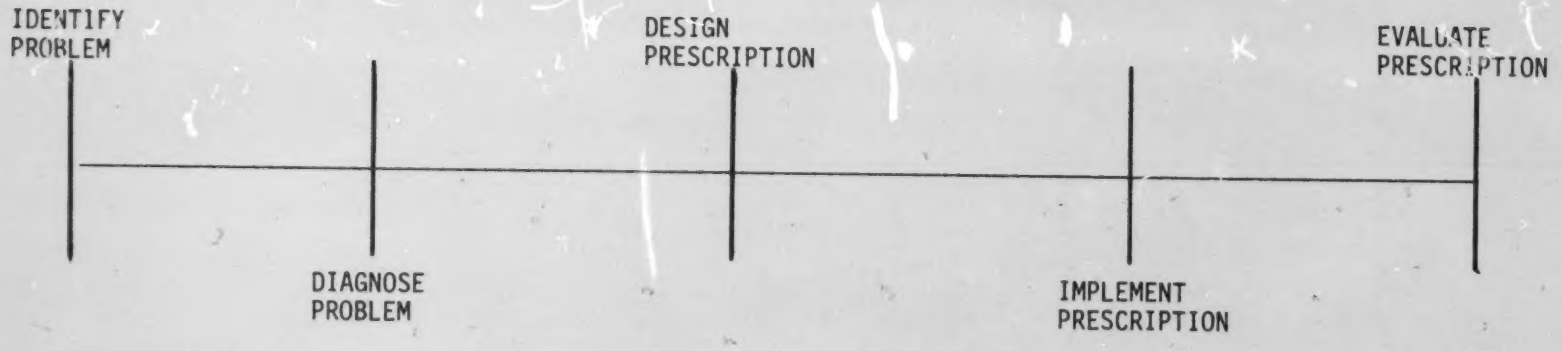
23. Next, we implement the prescription.

24. And, finally, we evaluate the prescription.

25. We will begin our workshop with a review of the first step we take after a child has been referred; we define his problem and identify what will meet his needs.

26. Are there any questions or comments?

CONTINUUM OF SERVICES



FACILITATOR NOTES

Facilitator Notes for Defining the Problem and Identifying

What Will Meet the Student's Need

This module is a review of the module of the same title from Informal Diagnosis & Prescriptive Programming: A Workshop. It presents a series of questions that, when answered, help participants define a child's problem and identify what will meet his needs.

It establishes a need for the participants to gather more diagnostic information in order to accurately define a child's problem and identify what will meet his needs. It should be stressed that the form presented is to be used when a child is initially referred. It is a way to organize what is already known about the child and also what remains to be done.

The demonstration from the first workshop concerning a referral of a child named Sally should be repeated to review the procedure for filling out the form.

The participants were instructed to bring samples of work of a child who had been referred to them. They are to fill out Worksheets 1, 2, and 3 using information they had about that child when he/she was initially referred.

The facilitator should have a page of information about a child prepared for those participants who forgot to bring worksheets and subtests completed by a child who has been referred to them. Enough information should be included so the participants can complete Worksheets 1, 2, and 3. The information should correspond to the worksheets and subtests the facilitator will need to distribute to these participants in future modules. Examples of the kind of information that should be prepared is included.

Objective of the Module

The participants will complete Worksheets 1, 2, and 3, defining a child's problem and identifying what will meet his needs, with 100% accuracy.

Materials Needed for the Module

Facilitator Materials

Activity Notes

1 transparency of Worksheets 1, 2, and 3

overhead projector

marking pens

1 transparency of Continuum of Services

2 extra sets of information about a child

Participant Materials

1 copy of Activity Sheet 1a per participant

1 copy of Worksheets 1, 2, and 3 per participant

1 set of information about a child per participant

Time Needed to Complete the Module

This module takes approximately 30 minutes to complete.

ACTIVITY NOTES

Activity Notes for

Defining the Problem and Identifying What Will Meet the Student's Need

(PUT THE TRANSPARENCY OF THE CONTINUUM OF SERVICES ON THE OVERHEAD.)

1. This is the continuum of services that we follow in working with a child referred to us.

(BRIEFLY REVIEW THIS TRANSPARENCY.)

2. Let's review the process of completing the first step, "Identify the Problem."

(PUT THE TRANSPARENCY OF WORKSHEET 1 ON THE OVERHEAD.)

3. Let's return to our example child, Sally. We'll review this form by filling in initial information about Sally as she was referred.

    a. She's in second grade.

    b. She's having trouble learning her beginning and ending consonant sounds.

4. The first thing we may want to do with this referral is to define the problem.

5. The first question to ask yourself when defining the problem is:

    1.1. Who is affected?

    The answer is Sally and her teacher.

6. Then we ask:

    1.2. What is the apparent skill deficit?

    She can't learn beginning and ending consonant sounds.

7. Next:

    1.3. What kind of skill deficit is it?

        a. What did we want the student to accomplish?

            To learn beginning and ending consonant sounds.

b. What has been done? (What/How much did the student achieve?) Here we need specific information from the teacher to complete this. "Can't learn consonant sounds" isn't enough.

She has learned the beginning sounds of c, l, m, r, s, t, and w and no ending sounds.

8. Then, we ask:

1.4. What remains to be done?

She needs to learn 14 more consonant sounds and 21 ending sounds.

9. Next, we need to combine all of the above information into a statement of the problem.

1.5. An example of a problem statement is:

Sally's teacher wants her to learn 14 beginning consonant sounds and 21 ending sounds.

10. Finally, ask yourself:

1.6. Are there ways to meet this problem?

At this point, yes.

11. Sally's problem is now better defined. However, we still need to pinpoint further what will meet her educational needs.

(PUT TRANSPARENCY OF WORKSHEET 2 ON THE OVERHEAD.)

12. Again, we state what we want her to accomplish.

2.1. Sally needs to learn 14 beginning consonant sounds and 21 ending ones.

13. Next, we ask ourselves:

2.2. What kind of information do I need to program for Sally?

a. What kinds of questions do I have?

1) Do I have questions about her:

_____background (family, previous educational experiences)
_____intellectual information (At what level is the child functioning?)
_____behavioral information (What can and can't the child do?)
_____other information (health, sensory, etc.)

2) Let's say I would like more information about Sally in each one of these areas.

b. Which of these questions are answered by the information you already have? Do you have any:

____background information
____intellectual information
____behavioral information
____other information

1) With this example, you only have a little behavioral information.

She knows 7 beginning consonant sounds and no ending consonant sounds.

2) In other cases, the referring teacher may have given you information that would answer your questions in certain areas and/or you may have read her cumulative folder, etc.

(PUT A TRANSPARENCY OF WORKSHEET 3 ON THE OVERHEAD.)

c. What questions still need to be answered?
What kind of information do you need to answer them?

____background information

1) For example, you might want to know what methods and materials have been used?

_____intellectual information

2) You might ask, what tests have been given or need to be given?

_____behavioral information

3) What language concepts does Sally have and which ones doesn't she have?

_____other information

4) Can Sally hear and see accurately?

14. By listing what types of information we still need, we have an indication of where to begin gathering diagnostic data.

15. The next question we ask is:

2.3. Does this information we have gathered indicate a need to modify the problem statement and goals we established for Sally?

a. This question can't be answered until you have gathered all the diagnostic information on the child. So we'll wait to answer it until after we've gathered some on her.

(HAND OUT ACTIVITY SHEET 1a DEFINING THE PROBLEM AND IDENTIFYING WHAT WILL MEET THE STUDENT'S NEED.)

Activity Sheet 1a

1. Think back to the initial referral of the child whose work you have brought with you.
2. Based on that child's problem, complete Worksheets 1, 2, and 3 for Defining the Problem and Identifying What Will Meet the Student's Need.
3. As you finish each page, discuss it with a facilitator.
4. Rejoin the large group for discussion.

(RECALL PARTICIPANTS TO THE LARGE GROUP FOR DISCUSSION. DISCUSS THE ADVANTAGES AND DISADVANTAGES OF USING THIS METHOD FOR DEFINING THE PROBLEM AND IDENTIFYING WHAT WILL MEET THE STUDENT'S NEED. RECORD THE RESPONSES ON A TRANSPARENCY.)

16. How have you used this form since the last workshop?
17. What problems have you found with this process?
18. What are some possible solutions to these problems?
19. Do you have any suggestions about questions to add or delete?
20. We have now defined the child's problem and identified the areas where we have some information and areas where we need more data. One way to gather more information about the child is to use informal diagnostic techniques. This leads us into our next review of one informal diagnostic technique, task analysis.

ACTIVITY SHEETS

Defining the Problem and

Identifying What Will Meet the Student's Need

Activity Sheet 1a

1. Think back to the initial referral of the child whose work you have brought with you.

2. Based on that child's problem, complete Worksheets 1, 2, and 3 for defining the problem and identifying what will meet the student's need.

3. As you finish each page, discuss it with a facilitator.

4. Rejoin the large group for discussion.

WORKSHEETS

Worksheet 1
(Use in Activity 1a)

Defining the Problem and Identifying What Will Meet the Student's Need

1.0 Defining the problem.

1.1 Who is affected?

1.2 What is the apparent skill deficit?

1.3 What kind of skill deficit is it?

a. What did we want the student to accomplish?

b. What has been done? (What/How much did the student achieve?)

1.4 What remains to be done?

1.5 Write a problem statement in paragraph form including the information in 1.1, 1.2, 1.3, and 1.4.

1.6 Are there ways to meet this problem?

Probably yes ____ Probably no ____

2.0 Identifying what will meet the student's need.

2.1 What is it that the student is to accomplish? (What are the appropriate goals for the student?)

2.2 What kinds of information are needed for you to program for this child?

a. What questions need to be answered before you can program for the child? Do you have questions in the areas of:

____ background information (family, previous educational experiences, etc.)

____ intellectual information (At what level is the child functioning?)

____ behavioral information (What can the child do? What can't he do?)

____ other information (health, sensory, etc.)

b. Which of these questions are answered by the information you already have?

____ background information

____ intellectual information

____ behavioral information

____ other information

c. What questions still need to be answered? What kind of information do you need to answer them?

Kinds of Information	Elaborate
____ background information	
____ intellectual information	
____ behavioral information	
____ other information	

2.3 Does this information you have gathered indicate a need to modify 1.5 or 2.1?

Yes ____ No ____

EXTRA PARTICIPANT

WORKSHEETS

Defining the Problem and Identifying What Will Meet the Student's Need

Information Needed to Complete Worksheets 1, 2 and 3

The child is a fifth grade boy who fights with his classroom teacher and classmates. He does not work well in groups but performs well when working in a one-to-one situation with the resource teacher.

He can hear and see accurately and is of average intelligence. He responds well to positive verbal reinforcement and likes games and filmstrips. He does not complete his seatwork or homework.

He reads at grade level. He can not say his multiplication facts nor complete simple multiplication computation. He will not complete addition and subtraction worksheets

Defining the Problem and Identifying What Will Meet the Student's Need

Information Needed to Complete Worksheets 1, 2 and 3

The child is a third grade girl who gets along well with her classroom teacher and peers. She is well behaved in class and is a "follower" rather than a "leader." She enjoys time spent with her teacher.

She has above average intelligence and her hearing and vision are normal. She does have a slight speech problem.

She does well in reading and math and can work independently. She likes books, tape recorded lessons and art.

She does not do well in creative writing and seems to have spelling problems although she can copy words correctly.

FACILITATOR NOTES

Facilitator Notes for Task Analysis

This is a review of the module, Task Analysis," which was originally presented in Informal Diagnosis and Prescriptive Programming: A Workshop. In this module the basic principles of task analysis and the procedures for doing a task analysis are reviewed.

In Activity 2a, the participants form dyads and task analyze a worksheet prepared by the facilitator. An example of one is included. The facilitator should have also completed a task analysis of the worksheet and titled it "Task Analysis of Worksheet 4 by Previous Participants."

In Activity 2b, the participants form new dyads and analyze four worksheets - two that each participant brought with him. They should analyze each worksheet together, but they need to record the task analysis only for the worksheets of the child who has been referred to them.

In Activity 2c, the participants again change partners and task analyze two subtests - one that each participant brought with him. They should analyze each subtest together, but they need to record the task analysis only for the subtest they brought.

The facilitator should have on hand four extra worksheets and two extra subtests to be used by those participants who may have forgotten to bring theirs with them. It would be helpful to have the task analyses of these worksheets and subtests already prepared to aid the facilitator in checking the participants task analyses.

These worksheets and subtests should correspond to the information the facilitator distributed in the first module to those participants who forgot their material. For example, if the material in the first module referred to a child in the second grade who had problems with math, the worksheets and subtests should be those a second grade child could have been assigned.

Four worksheets and two subtests should be prepared, but only two worksheets and one subtest are distributed to each participant who neglected to bring his own. Examples of two complete sets of worksheets and subtests are included in case several participants forget to bring their own. This will allow the facilitator to distribute a variety of materials so half of his group does not end up working on the same materials.

It is very important for the facilitator to check each dyad's task analyses very carefully. This will entail much work on the facilitator's part because there are no prepared task analyses of the worksheets and subtests the participants brought with them to use during the checking period. Since the worksheets and subtests were brought by the participants, chances are they will be completely new to the facilitator. Because of this, it is very important to prepare a task analysis of

Worksheet 4 used in Activity 2a and for the facilitator to closely check the participants to be sure their analyses of Worksheet 4 are similar to the one previously prepared. The checking procedure is more difficult and time consuming for the facilitator during this workshop, but no less important.

As in the original "Task Analysis" module, be sure to stress that the participants should state their task analysis in observable terms. They should not record abilities, such as "visual discrimination" or "remembers."

Participants may want to number their two academic worksheets 5 and 6, and their subtest 7 to correspond with the Recording Sheets 5a, 6a, 7a.

Objectives of the Module

1. Each participant, given one completed academic worksheet, will task analyze it into its component subtasks and record his task analysis on the Recording Sheet with 90% accuracy.

2. Each participant will task analyze four academic worksheets (two selected by each member of the dyad) into their component subtasks and record his task analyses on the Recording Sheets with 95% accuracy.

3. Each participant will task analyze two subtests (one selected by each member of the dyad) into their component subtasks and record his task analysis on the Recording Sheets with 95% accuracy.

Materials Needed for the Module

Facilitator Materials

Activity Notes

blank transparencies

1 transparency of Continuum of Services

overhead projector

marking pens

1 transparency of the Demonstration, "Short Vowels"

1 transparency of the Demonstration, "Numeral Sequencing"

Participant Materials

1 copy of the Demonstration, "Short Vowels" per participant

1 copy of the Demonstration, "Numeral Sequencing" per participant

1 Activity Sheet 2a per participant

1 Activity Sheet 2b per participant

1 Activity Sheet 2c per participant

...continued next page

2 transparencies of Recording Sheet 4a

4 extra academic worksheets

2 extra subtests

1 copy of Worksheet 4 and Recording Sheet 4a per participant

1 Task Analysis of Worksheet 4 Completed by Previous Participants per participant

2 academic worksheets brought by each participant

1 subtest brought by each participant

1 copy of Recording Sheets 5a and 6a per participant (for recording task analysis of 2 worksheets)

1 copy of Recording Sheet 7a per participant (for recording task analysis of subtest)

Time Needed to Complete the Module

Approximately one hour and 30 minutes is needed to complete this module.

ACTIVITY NOTES

Activity Notes for Task Analysis

(PUT CONTINUUM OF SERVICES TRANSPARENCY ON THE OVERHEAD.)

1. In our first module we reviewed how to identify and define the problem. We decided to teach Sally beginning and ending consonant sounds. Before we begin, we need to gather some diagnostic information that will help us decide how to teach her. This is where we begin the next step on the continuum, that of diagnosing the problem. One kind of information that could help us gather the diagnostic information we need is task analysis.

2. We spent a considerable amount of time on task analysis in our first workshop. We consider task analysis to be one of the most important concepts of the workshop. In order to learn some of the skills in the other modules, you need to understand task analysis.

3. Let's take some time today to review the basic principles of task analysis. In teaching children with learning problems, we need to remember that the learning tasks we present to them should be broken down into small, sequential steps. Breaking tasks or objectives into small, sequential steps is task analysis.

4. As you'll remember from reading Chapter 3 of Essentials of Teaching by Barbara Bateman, she describes task analysis "as the process of

   a. isolating
   b. describing
   c. sequencing

   all the necessary subtasks which, when the child has mastered them, will enable him to perform the objective." (Bateman, 1971, p.33.)

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD AND RECORD THE IMPORTANT POINTS OF THE FOLLOWING DISCUSSION.)

5. A thorough task analysis enables the teacher to determine quite precisely where to begin instruction.

6. Task analysis provides an efficient means of assessing what skills the child needs to complete the objective.

7. The uses of task analysis include:

   a. assessing entering behavior

   b. grouping for instruction

   c. readiness

   d. motivation.

8. The significance of using task analysis as an informal diagnostic tool is that it can be used to assess entering behavior. Bateman states that global descriptions of the child's entering behaviors include such common items as, "He is ready for third grade," or "He has a mental age of 8-6," etc. While this provides some information for the teacher, it really isn't much more than what she can quickly size up for herself within the first few encounters with the child. A score of 45% on the Basic Test of Something doesn't tell the teacher much either. Even such "diagnostic" data as "one year above grade level in reading," "at grade level in spelling," or "two years below grade level in arithmetic," doesn't really answer the two most important questions of teachers--"Exactly what and how does he need to learn?" To assess relevant entering behavior, the teacher must determine which prerequisites to successful performance of the task the child lacks. In other words, she must determine what skills the child needs to do to complete the task, and then figure out which of these skills the child can and can't perform.

9. To use task analysis as an informal diagnostic technique, you:

   a. specify an instructional objective the child is having difficulty accomplishing,

   b. break it into subtasks,

   c. construct a checklist with a test item for each subtask,

   d. administer the checklist,

   e. teach the child the subtasks he doesn't know.

10. When he is able to do all of the subtasks that are part of the objective, he should be able to complete the objective.

11. When doing a task analysis, remember that you are interested only in behaviors you can observe, those that can be:

    a. <u>seen</u>
    b. <u>heard</u>
    c. <u>measured</u>
    d. <u>counted</u> .

12. Concentrate only on the observable subtasks the child need to do in order to complete the objective. Use the formula, "<u>Action verb plus object</u>." For example, "grasp" would be an action verb and "pencil" would be the object.

13. Let's review the process by task analyzing two worksheets.

(PUT THE DEMONSTRATION TRANSPARENCY, "NUMERAL SEQUENCING", ON THE OVERHEAD. HAND OUT COPIES OF IT TO THE PARTICIPANTS. COMPLETE THE TASK ANALYSIS OF THIS WORKSHEET WITHOUT INPUT FROM THE PARTICIPANTS. WRITE IT ON A BLANK TRANSPARENCY.)

14. Look at this worksheet. The teacher reads the directions to the child, so he doesn't have to do any reading.

15. The task analysis of this worksheet is:

    a. attends to the teacher and task,

    b. demonstrates an understanding of the key words in the directions (before, after, in between),

    c. identifies numerals,

    d. partial counts backwards by ones, (Part A),

    e. partial counts forward by ones, (Parts B, C, and D),

    f. matches number name with symbol,

    g. writes numeral on line.

16. Any questions about this task analysis? Can you suggest any subtasks that could be broken down further? Do you have any questions about the sequence of the tasks?

(ENCOURAGE DISCUSSION CONCERNING THESE QUESTIONS.)

17. Let's do a task analysis of this next worksheet together. The teacher reads the directions to the child.

(PUT THE DEMONSTRATION TRANSPARENCY, "SHORT VOWELS," ON THE OVERHEAD. HAND OUT COPIES OF IT TO THE PARTICIPANTS. COMPLETE THE TASK ANALYSIS OF THIS WORKSHEET WITH INPUT FROM THE PARTICIPANTS. RECORD RESPONSES ON A TRANSPARENCY OF A RECORDING SHEET.)

(THE TASK ANALYSIS OF THE DEMONSTRATION, "SHORT VOWELS", SHOULD BE SIMILAR TO THE FOLLOWING:

    a. attends to teacher/task,

    b. demonstrates an understanding of the key words in the directions (write, letter, line, etc.),

    c. identifies the pictures,

    d. isolates vowel sound,

    e. matches vowel sound with letter,

    f. writes letter on line.)

18. The next activity in our review of task analysis is for you to form dyads and task analyze one worksheet that I have prepared.

(HAND OUT ACTIVITY SHEET 2a, WORKSHEET 4, AND RECORDING SHEET 4a.)

Activity Sheet 2a

1. In dyads, isolate, describe and sequence the subtasks on the academic worksheet which you have been given.
2. Compare your answers with those of previous participants.
3. Discuss any differences between your task analysis and that of previous participants.
4. Select your task analysis, or the one by previous participants, or a composite of both, as your final task analysis of the worksheet.
5. Write your final analysis on Recording Sheet 4a.
6. At this time, ignore the "Check" and "Systematic Inquiries" columns.

(AFTER THE GROUP HAS COMPLETED ACTIVITY 2a, HAND OUT ACTIVITY SHEET 2b, AND RECORDING SHEETS 5a AND 6a. THE PARTICIPANTS WILL TASK ANALYZE FOUR WORKSHEETS, TWO THAT EACH MEMBER OF THE DYAD BROUGHT WITH HIM. HOWEVER, EACH PARTICIPANT NEEDS TO RECORD ONLY THE TASK ANALYSES FOR HIS OWN WORKSHEETS. IF SOMEONE FORGOT TO BRING WORKSHEETS, THE FACILITATOR SHOULD PROVIDE HIM WITH TWO.)

Activity Sheet 2b

1. Find the worksheets you brought with you.
2. Isolate, describe and sequence the subtasks of all four worksheets with your partner.
3. Even though you are to task analyze all four worksheets, each of you needs to record only the task analyses of the worksheets you brought with you on Recording Sheets 5a and 6a.
4. When you are finished task analyzing each worksheet, please discuss it with a facilitator.
5. At this time, ignore the "Check" and "Systematic Inquiries" columns.
6. You may want to number your worksheets 5 and 6 to correspond with the Recording Sheets 5a and 6a.

(AFTER THE GROUP HAS COMPLETED ACTIVITY 2b, TELL THEM TO CHANGE PARTNERS AND HAND OUT ACTIVITY SHEET 2c AND RECORDING SHEET 7a. THE PARTICIPANTS WILL TASK ANALYZE TWO SUBTESTS, ONE THAT EACH MEMBER OF THE DYAD BROUGHT WITH HIM. HOWEVER, EACH PARTICIPANT NEEDS TO RECORD ONLY THE TASK ANALYSIS FOR HIS OWN SUBTEST. IF SOMEONE FORGOT TO BRING A SUBTEST, THE FACILITATOR SHOULD PROVIDE HIM WITH ONE.)

Activity Sheet 2c

1. Find the subtest you brought with you.
2. Isolate, describe and sequence the subtasks of two subtests with your partner.
3. Even though you are to task analyze both subtests, each of you is to record only the task analysis of the subtest you brought with you on Recording Sheet 7a.
4. When you are finished with each subtest, please discuss it with a facilitator.
5. At this time, ignore the "Checks" and "Systematic Inquiries" columns.
6. You may want to number your subtest 7 to correspond with Recording Sheet 7a.
7. Return to the large group for discussion.

(WHEN THE PARTICIPANTS HAVE COMPLETED ACTIVITY 2c, ASK THEM TO FORM A LARGE GROUP. DISCUSS THE FOLLOWING POINTS AND RECORD RELEVANT COMMENTS ON A BLANK TRANSPARENCY ON THE OVERHEAD.)

19. Let's discuss your reactions and thoughts about task analysis.

20. Have you used task analysis?

21. What problems have you experienced with it?

(THE FACILITATOR MAY DRAW THE FOLLOWING GRAPH ON THE TRANSPARENCY FOR QUESTIONS 21 AND 22. PROBLEMS | SOLUTIONS)

22. What are some solutions to these problems?

23. Have you informally taught task analysis to others?

24. How did that go?

25. What problems occurred when you taught it?

26. What are some solutions to those problems?

27. What are your future plans for using task analysis?

28. Are there any further questions or comments about task analysis?

29. The next step then is to review another informal diagnostic technique, "Error Pattern Analysis."

DEMONSTRATIONS

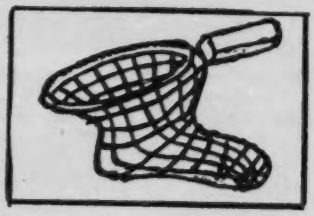
Use in Task Analysis
Demonstration

SHORT VOWELS

Directions: "Write the letter for the vowel sound you hear in the pictures.
-Write the letter on the line under the pictures."

_____

_____



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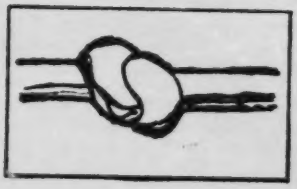

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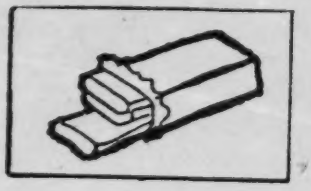

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_____

Use in Task Analysis Demonstration.

X. NUMERAL SEQUENCING

A. "What number should come before each numeral? Write it on the line."

___3	___2
___5	___7
___8	___4

B. "What number should come after each of these numerals? Write it on the line."

8___	4___
2___	7___
1___	5___

C. "What numeral(s) should come in between the numerals?"

5 ___ 7	1 ___ 3
3 ___ 5	6 ___ 8.
8 ___ 10	2 ___ 4

D. "What numeral(s) should come in between the numerals?"

1 ___ ___ 4 ___ 6 7 ___ 9 ___.

ACTIVITY SHEETS

Task Analysis

Activity Sheet 2a

1. In dyads, isolate, describe and sequence, the subtasks on the academic worksheet which you have been given.

2. Compare your answers with those of previous participants.

3. Discuss any differences between your task analysis and that of previous participants.

4. Select your task analysis, or the one by previous participants, or a composite of both, as your final task analysis.

5. Write your final analysis on Recording Sheet 4a.

6. At this time, ignore the "Check" and "Systematic Inquiries" columns.

Task Analysis

Activity Sheet 2b

1. Find the worksheets you brought with you.

2. Isolate, describe and sequence the subtasks of all four worksheets with your partner.

3. Even though you are to task analyze all four worksheets, each of you needs to record only the task analyses of the worksheets you brought with you, on Recording Sheets 5a and 6a.

4. When you are finished task analyzing each worksheet, please discuss it with a facilitator.

5. At this time, ignore the "Check" and "Systematic Inquiries" columns.

6. You may want to number your worksheets 5 and 6 to correspond with the Recording Sheets 5a and 6a.

Task Analysis

Activity Sheet 2c

1. Find the subtest you brought with you.
2. Isolate, describe and sequence the subtasks of the two subtests with your partner.
3. Even though you are to task analyze both subtests, each of you is to record only the task analysis of the subtest you brought with you on Recording Sheet 7a.
4. When you are finished with each subtest, please discuss it with a facilitator.
5. At this time, ignore the "Check" and "Systematic Inquiries" columns.
6. You may want to number your subtest 7 to correspond with Recording Sheet 7a.
7. Return to the large group for discussion.

WORKSHEETS

Task Analysis

Worksheet 4
(Use in Activity 2a)

Directions: Write out the amount of money the way you would if you were writing out a check. Study the first example.

1. $35.95 Thirty-five and 95/100 DOLLARS
2. $19.75 _____ DOLLARS
3. $ 5.50 _____ DOLLARS
4. $23.40 _____ DOLLARS
5. $49.95 _____ DOLLARS
6. $75.22 _____ DOLLARS
7. $99.34 _____ DOLLARS
8. $32.10 _____ DOLLARS
9. $15.89 _____ DOLLARS
10. $105.77 _____ DOLLARS
11. $22.44 _____ DOLLARS
12. $133.50 _____ DOLLARS
13. $110.95 _____ DOLLARS

RECORDING SHEETS

Task Analysis

Recording Sheet 4a
(Use in Activity 2a)

Task Analysis	Check	Systematic Inquiries

Name of Worksheet: _____

Task Analysis

Recording Sheet 5a
(Use in Activity 2b)

Task Analysis	Check	Systematic Inquiries

Name of Worksheet: _____

Task Analysis

Recording Sheet 6a
(Use in Activity 2b)

Task Analysis	Check	Systematic Inquiries

Name of Worksheet: _____

Task Analysis

Recording Sheet 7a
(Use in Activity 2c)

Task Analysis	Check	Systematic Inquiries

Name of Worksheet: _____

PREVIOUS PARTICIPANT SHEETS

Task Analysis

Task Analysis of Worksheet 4
by Previous Participants
(Use in Activity 2a)

1. Attend to task.
2. Demonstrates an understanding of the key words in the directions.
3. Reads directions. (Isolates, sequences, blends, or sight words)
4. Locates row.
5. Identifies numerals.
6. Reads numeral amount.
7. Matches $ symbol with word "dollars".
8. Matches . symbol with word "and".
9. Matches numeral with number words.
10. Converts decimal fraction to common fractions.
11. Writes answer.

EXTRA PARTICIPANT

WORKSHEETS

(Use in Activity 2b)

Multiply:

$$\begin{array}{r} 4 \\ \times\ 3 \\ \hline \end{array} \qquad \begin{array}{r} 5 \\ \times\ 2 \\ \hline \end{array} \qquad \begin{array}{r} 3 \\ \times\ 3 \\ \hline \end{array} \qquad \begin{array}{r} 2 \\ \times\ 4 \\ \hline \end{array}$$

$6 \times 2 =$ ____ $\qquad 5 \times 1 =$ ____ $\qquad 4 \times 4 =$ ____

Add:

$$\begin{array}{r} 6 \\ 6 \\ +\ 6 \\ \hline \end{array} \qquad \begin{array}{r} 5 \\ 4 \\ +\ 2 \\ \hline \end{array} \qquad \begin{array}{r} 2 \\ 2 \\ +\ 2 \\ \hline \end{array} \qquad \begin{array}{r} 5 \\ 5 \\ +\ 1 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ +\ 4 \\ \hline \end{array} \qquad \begin{array}{r} 7 \\ +\ 7 \\ \hline \end{array} \qquad \begin{array}{r} 8 \\ +\ 8 \\ \hline \end{array} \qquad \begin{array}{r} 7 \\ +\ 6 \\ \hline \end{array}$$

(Use in Activity 2b)

Answer these questions:

1. How many apples are there in 2 boxes, if there are 10 apples in a box? _____ x _____ = _____

2. The temperature yesterday was 9°. Today the temperature is 3 times hotter. What is the temperature today? _____ x _____ = _____

3. How many cents are there is 4 nickels? _____ x _____ = _____

4. Paul walked 8 miles to the store, and then he walked back home. How many miles did he walk altogether? _____ x _____ = _____

5. There are 6 chairs in each row and there are 4 rows. How many chairs are there? _____ x _____ = _____

Directions: Write four sentences about the story we just read.

(Use in Activity 2b)

55

66

65

Name: _____

(Use in Activity 2b)

Name: _____

Directions: Write a story about two animals, using this week's spelling words.

(Use in Activity 2c)

The CaJo Arithmetic Test

Add:

14 +73	20 +40	42 +49	292 +312	411 + 19
90 +697	502 +111	46 +21	3 4 +2	1 9 +3

Multiply:

4 x3	2 x5	4 x2	4 x4	5 x4

6 x 1 = ____ 5 x 2 = ____ 4 x 2 = ____

3 x 4 = ____ 3 x 3 = ____ 4 x 1 = ____

(Use in Activity 2c)

Task Analysis

Spelling Test

1. _____ 7. _____

2. _____ 8. _____

3. _____ 9. _____

4. _____ 10. _____

5. _____ 11. _____

6. _____ 12. _____

Name: _____

(The teacher dictates words verbally to the children.)

FACILITATOR NOTES

Facilitator Notes for Error Pattern Analysis

This module is a review of the module "Error Pattern Analysis" which was included in the original Informal Diagnosis and Prescriptive Programming: A Workshop. It reviews the seven steps of error pattern analysis.

In this module, the facilitator does one demonstration of an error pattern analysis using the same worksheet that was used in the first task analysis demonstration.

In Activity 3a, the participants form dyads to do an error pattern analysis of one worksheet specified by the facilitator. This worksheet can be the same one used in Activity 2a of the "Task Analysis" module. However, it will need to be completed by the facilitator so that it illustrates that a pattern of errors exists. An example of one is included. The facilitator should have also completed an error pattern analysis of the worksheet and entitled "Error Pattern Analysis of Worksheet 8 by Previous Participants."

In Activity 3b, the participants form new dyads and each person finds the two worksheets that he and his partner task analyzed in the task analysis module. The dyads complete an error pattern analysis for all four worksheets. Each person in the dyad, although he determines the error pattern on all four worksheets, needs to record only the error pattern analysis of the two worksheets he brought with him. He writes these on Recording Sheets 9a and 10a.

As a continuation of Activity 3b, each person finds the subtest that he and his partner previously task analyzed in the task analysis module. The dyads complete an error pattern analysis of both subtests. Each person in the dyad needs to record only the task analysis for the subtest he brought with him. He writes this on Recording Sheet 11a.

Participants who forgot to bring their own worksheets and subtests should use those the facilitator had previously prepared and distributed for the "Task Analysis" module. Examples of these are included in the "Error Pattern Analysis" module.

It is very important for the facilitator to check each dyad's error pattern analysis very carefully. This will entail much work on the facilitator's part because there are no prepared error pattern analyses of the worksheets and subtests the participants brought with them to use during the checking period. Because of this, it is very important to prepare an error pattern analysis of Worksheet 8, used in Activity 3a, and for the facilitator to closely check the participants to be sure their error pattern analysis of Worksheet 8 is similar to the prepared one. The checking procedure is more difficult and time consuming for the facilitator during this workshop, but no less important.

Objectives of the Module

1. The participants, given one completed worksheet, will analyze the errors and develop an appropriate, tentative conclusion with 100% accuracy.

2. The participants will analyze the errors and develop an appropriate, tentative conclusion on four worksheets (two selected by each member of the dyad) with 100% accuracy.

3. The participants will analyze the errors and develop an appropriate, tentative conclusion on two subtests (one selected by each member of the dyad) with 100% accuracy.

Materials Needed to Complete the Module

Facilitator Materials

Activity Notes

blank transparencies

1 transparency of Continuum of Services

1 transparency of the "Numeral Sequencing" demonstration

1 transparency of the Recording Sheet 8a

4 extra completed worksheets

2 extra completed subtests

1 transparency of the Task Analysis of the demonstration "Numeral Sequencing"

Participant Materials

1 copy of Activity Sheet 3a per participant

1 copy of Worksheet 8 and Recording Sheet 8a per participant

1 copy of Error Pattern Analysis of Worksheet 8 by Previous Participants per participant

1 copy of Activity Sheet 3b per participant

2 worksheets brought by each participant

1 subtest brought by each participant

1 copy of Recording Sheets 8a, 9a, 10a, and 11a per participant

Time Needed to Complete the Module

Approximately forty-five minutes is needed to complete the module.

ACTIVITY NOTES

Activity Notes for Error Pattern Analysis

(PUT THE CONTINUUM OF SERVICES TRANSPARENCY ON THE OVERHEAD.)

1. So far in our attempt to gather diagnostic information about a child's problem, we have used task analysis. Another way to gather informal diagnostic data that is behavioral is a process called Error Pattern Analysis.

2. Error Pattern Analysis is a procedure for examining responses made by a child. By examining the child's responses, some possible reasons why the child could have made the error will be eliminated, while others will become the focus of further inquiry.

(PUT A TRANSPARENCY OF THE DEMONSTRATION, "NUMERAL SEQUENCING," ON THE OVERHEAD. ALSO PASS OUT COPIES OF IT TO THE PARTICIPANTS.)

3. Look at this worksheet. This is the way a child marked it.

4. The first step of Error Pattern Analysis is to identify the errors.

5. The second step is to fill in the correct responses. It is important to know the correct answers so you can compare them to the incorrect responses. From this you can determine what type of error it is.

6. We have already done a task analysis of this page. It's not mandatory to do a task analysis but it makes analyzing errors easier. After you have analyzed a task into its component parts, you are aware of all possible sources of error.

7. We can use task analysis when we are doing the third step of error pattern analysis which is eliminating possible sources of error.

(PUT TRANSPARENCY OF TASK ANALYSIS OF THE DEMONSTRATION, "NUMERAL SEQUENCING," ON THE OVERHEAD.)

8. This was our task analysis for this page:

   a. attends to task/teacher,

   b. demonstrates an understanding of key words in the directions (before, after, in between),

   c. identifies numerals,

d. Partial counts backwards by ones, (Part A)

e. Partial counts forward by ones, (Part B, C, and D)

f. Matches number name with symbol,

g. Writes numeral on line.

9. These are the subtasks we can <u>eliminate</u> as possible sources of error.

   a. The child can follow directions because he did fill in the blanks when asked.

   b. The child can write numerals.

10. When we start to look at this child's errors, we cannot conclude that he knows what numbers come before, after, or in between because he could not put the correct number in the blank in every instance.

11. The <u>fourth</u> step is describing errors. I can describe one source of error this way.

    The child seems to be writing the number that comes after the given number instead of writing the number that comes before it in part A. He also seems to write a 10 whenever the response calls for a number above 7.

12. The description of the errors has led to a tentative conclusion which is step <u>five</u>.

(PUT A TRANSPARENCY OF A RECORDING SHEET ON THE OVERHEAD. RECORD THE FOLLOWING TENTATIVE CONCLUSION.)

13. I will record the tentative conclusion in observable terms. The child writes numerals that come after the given number when asked to write the numerals that come before a given number. The child writes 10 for any response that is above 7.

14. The next step, <u>six</u>, would be to try to confirm this conclusion. I would do this by observing the child's classroom performance in situations where the skill is required, and looking at further worksheets and tests he has completed.

15. The final step, <u>seven</u>, is to write a diagnostic hypothesis. This is based on the child's consistent performance on many tasks. It is impossible to write a diagnostic hypothesis at this time because I haven't observed or tested the child further. All I can do on this sheet is state a tentative conclusion. Error pattern analysis

is difficult to do without the actual responses of the child. It should be done along with observation of the child and other informal diagnostic techniques.

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD.)

16. The seven steps to error pattern analysis are:

    a. finding and marking errors,

    b. filling in correct responses,

    c. eliminating possible sources of error,

    d. describing errors,

    e. writing a tentative conclusion,

    f. confirming the conclusion,

    g. writing a diagnostic hypothesis.

17. We only do the first five steps and end with a tentative conclusion. We can't call our tentative conclusion a diagnostic hypothesis because we haven't confirmed it by checking the child's performance on many tasks.

18. Error Pattern Analysis is only one procedure of diagnosis. It is not valid in itself. It should be used along with other diagnostic techniques, such as observation, formal and informal testing, task analysis, and so forth.

19. Any questions of comments?

20. The first activity is to analyze the error pattern on one worksheet. Be sure to check your answers with those of the previous participants after you have finished. Try to state your tentative conclusion in observable terms. Try not to make any interpretations.

(HAND OUT ACTIVITY SHEET 3a, WORKSHEET 8 and RECORDING SHEET 8a TO EACH PARTICIPANT.)

Activity Sheet 3a

1. In dyads, analyze the error pattern on Worksheet 8.
2. Determine a tentative conclusion and record it on Recording Sheet 8a.
3. Compare your conclusion with those reached by previous participants.
4. Select your conclusion, those done by previous participants, or a combination of both, as your final conclusion.

21. For the next activity, find a new partner and analyze the error pattern on the two worksheets and one subtest that you have brought with you, and the two worksheets and one subtest that your partner has brought. This makes a total of four worksheets and two subtests for each dyad to analyze. Each person will record the tentative conclusion of the two worksheets and one subtest he brought on Recordings Sheets 9a, 10a, and 11a.

(HAND OUT ACTIVITY SHEET 3b AND RECORDING SHEETS 9a, 10a, 11a TO EACH PARTICIPANT.)

Activity Sheet 3b

1. Form a new dyad and analyze the error pattern on four worksheets (two that you brought with you and two that your partner brought with him).
2. Determine the tentative conclusions and record them on Recording Sheets 9a and 10a only for the worksheets you brought with you.
3. Then, analyze the error pattern on two subtests (one that you brought with you and one that your partner brought with him).
4. Determine the tentative conclusions and record them on Recording Sheet 11a only for the subtest you brought with you.
5. Discuss your conclusion with a facilitator.
6. Return to the large group for discussion.

(AFTER EVERYONE HAS COMPLETED THEIR ERROR PATTERN ANALYSES, BRING THE PARTICIPANTS BACK TO THE LARGE GROUP. PUT A BLANK TRANSPARENCY ON THE OVERHEAD.)

22. Let's review the seven steps of Error Pattern Analysis:

    a. finding and marking errors,

    b. filling in correct responses,

    c. eliminating possible sources of error,

    d. describing errors,

    e. writing a tentative conclusion,

    f. confirming the conclusion,

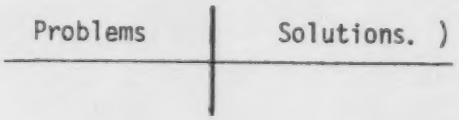
    g. writing a diagnostic hypothesis.

23. Let's discuss your reactions and thoughts about error pattern analysis.

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD AND RECORD RELEVANT COMMENTS.)

24. Have you used Error Pattern Analysis?

(THE FACILITATOR MAY DRAW THE FOLLOWING GRAPH ON THE TRANSPARENCY FOR QUESTIONS 25 and 26:



25. What problems have you experienced with it?

26. What are some solutions to these problems?

27. Have you informally taught Error Pattern Analysis to others?

28. How did that go?

29. What problems occurred when you taught it?

30. What are some solutions to these problems?

31. What are your future plans for using Error Pattern Analysis?

32. Are there any further questions or comments about Error Pattern Analysis?

33. We have now reviewed two methods of informally diagnosing a child's problems and are ready to review a third procedure - Systematic Inquiry.

DEMONSTRATIONS

Use in Error Pattern
Analysis Demonstration

X. NUMERAL SEQUENCING

A. "What number should come before each numeral? Write it on the line."

4 3	3 2
6 5	10 7
10 8	5 4

B. "What number should come after each of these numerals? Write it on the line."

8 10	4 5
2 3	7 10
1 2	5 6

C. "What numeral(s) should come in between the numerals?"

5 6 7	1 2 3
3 4 5	6 7 8
8 10 10	2 3 4

D. "What numeral(s) should come in between the numerals?"

1 2 3 4 4 5 7 10 9 10.

Error Pattern Analysis

Task Analysis of Error Pattern Analysis Demonstration

1. Attends to task/teacher.
2. Demonstrates an understanding of key words in the directions (before, after, in between).
3. Identifies numerals.
4. Partial counts backwards by ones. (A)
5. Partial counts forward by ones. (B) (C) (D)
6. Matches number name with symbol.
7. Writes numeral on line.

ACTIVITY SHEETS

Error Pattern Analysis

Activity Sheet 3a

1. In dyads, analyze the error pattern on Worksheet 8.
2. Determine a tentative conclusion and record it on Recording Sheet 8a.
3. Compare your conclusion with those reached by previous participants.
4. Select your conclusion, those done by previous participants, or a combination of both, as your final conclusion.

Error Pattern Analysis

Activity Sheet 3b

1. Form a new dyad and analyze the error pattern on four worksheets (two that you brought with you and two that your partner brought with him).

2. Determine the tentative conclusions and record them on Recording Sheets 9a and 10a only for the worksheets you brought with you.

3. Then, analyze the error pattern on two subtests (one that you brought with you and one that your partner brought with him).

4. Determine the tentative conclusions and record them on Recording Sheet 11a only for the subtest you brought with you.

5. Discuss your conclusion with a facilitator.

6. Return to the large group for discussion.

WORKSHEETS

Worksheet 8
(Use in Activity 3a)

Directions: Write out the amount of money the way you would if you were writing out a check. Study the first example.

1. $35.95 Thirty-five and 95/100 DOLLARS
2. $19.75 Nineteen and 75/100 DOLLARS
3. $ 5.50 Five and 55/100 DOLLARS
4. $23.40 Twenty-three and 34/100 DOLLARS
5. $49.95 Forty-nine and 95/100 DOLLARS
6. $75.22 Seventy-five and 22/100 DOLLARS
7. $99.34 Ninety-nine and 34/100 DOLLARS
8. $32.10 Thirty-two and 21/100 DOLLARS
9. $15.89 Fifteen and 89/100 DOLLARS
10. $105.77 One hundred five and 77/100 DOLLARS
11. $22.44 Twenty-two and 44/100 DOLLARS
12. $133.50 One hundred thirty-three and 35/100 DOLLARS
13. $110.95 One hundred ten and 95/100 DOLLARS

RECORDING SHEETS

Error Pattern Analysis

Recording Sheet 8a
(Use in Activity 3a)

Worksheet Name: Writing Out the Amount of Money on a Check

Tentative Conclusion:

Error Pattern Analysis

Recording Sheet 9a
(Use in Activity 3b)

Worksheet Name: _____

Tentative Conclusion:

Error Pattern Analysis

Recording Sheet 10a
(Use in Activity 3b)

Worksheet Name: _____

Tentative Conclusion:

Error Pattern Analysis

Recording Sheet 11a
(Use in Activity 3b)

Subtest Name: _____

Tentative Conclusion:

PREVIOUS PARTICIPANT SHEETS

Error Pattern Analysis

Error Pattern Analysis of
Worksheet 8 by Previous
Participants
(Use in Activity 3a)

Worksheet Name: Writing Out the Amount of Money on a Check

Tentative Conclusion:

The child is writing the last two whole numbers in the common fraction and omitting the zero at the end.

EXTRA PARTICIPANT

WORKSHEETS

(Use in Activity 3a)

Error Pattern Analysis

Multiply:

$$\begin{array}{r} 4 \\ \times\ 3 \\ \hline 7 \end{array} \qquad \begin{array}{r} 5 \\ \times\ 2 \\ \hline 10 \end{array} \qquad \begin{array}{r} 3 \\ \times\ 3 \\ \hline 6 \end{array} \qquad \begin{array}{r} 2 \\ \times\ 4 \\ \hline 8 \end{array}$$

$6 \times 2 = 12$ $\qquad$ $5 \times 1 = 5$ $\qquad$ $4 \times 4 = 8$

Add:

$$\begin{array}{r} 6 \\ 6 \\ +\ 6 \\ \hline 18 \end{array} \qquad \begin{array}{r} 5 \\ 4 \\ +\ 2 \\ \hline 10 \end{array} \qquad \begin{array}{r} 2 \\ 2 \\ +\ 2 \\ \hline 6 \end{array} \qquad \begin{array}{r} 5 \\ 5 \\ +\ 1 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 6 \\ +\ 4 \\ \hline 10 \end{array} \qquad \begin{array}{r} 7 \\ +\ 7 \\ \hline 12 \end{array} \qquad \begin{array}{r} 8 \\ +\ 8 \\ \hline 16 \end{array} \qquad \begin{array}{r} 7 \\ +\ 6 \\ \hline 15 \end{array}$$

(Use in Activity 3a)

Error Pattern Analysis

Answer these questions:

1. How many apples are there in 2 boxes, if there are 10 apples in a box? 2 x 10 = 20

2. The temperature yesterday was 9°. Today the temperature is 3 times hotter. What is the temperature today? 9 x 3 = 12

3. How many cents are there is 4 nickels? 4 x ____ = ____

4. Paul walked 8 miles to the store, and then he walked back home. How many miles did he walk altogether? 8 x 2 = 16

5. There are 6 chairs in each row and there are 4 rows. How many chairs are there? 6 x 4 = 10

Directions: Write four sentences about the story we just read.

(Use in Activity 3a)

Error Pattern Analysis

ther's a Dog chising a cat.

the cat want dupe the tree.

87

The Dog want away.

98 a'm sore the Dog wash dab.

99

Name: Natalie

(Use in Activity 3a)

Error Pattern Analysis

Directions: Write a story about two animals, using this week's spelling words.

A Dog and cat is it the Dog and cat that I think it is yes mom it is. Dear. mom it is ok if they stay wht me Dear thank you mom But ruimder thet you will a fan ito Dead them.

Name: Natalie

(Use in Activity 3b)

Error Pattern Analysis

The CaJo Arithmetic Test

Add:

14 +73 87	20 +40 6	42 +49 80	292 +312 5104	411 +19 30
90 +697 6187	502 +111 613	46 +21 67	3 4 +2 9	1 9 +3 13

Multiply:

4 x3 7	2 x5 10	4 x2 8	4 x4 8	5 x4 9

6 x 1 = 6 5 x 2 = 10 4 x 2 = 8

3 x 4 = 7 3 x 3 = 6 4 x 1 = 4

(Use in Activity 3b)

Error Pattern Analysis

Spelling Test

1. a'm (I'm)
2. wate (wait)
3. ruinder (reminder)
4. Don't (don't)
5. the'er (they're)
6. alown (alone)
7. chising (chasing)
8. sore (sorry)
9. dinere (dinner)
10. ahaed (ahead)
11. shcool (school)
12. sepply (sleepy)

Name: Natalie

FACILITATOR NOTES

Facilitator Notes for Systematic Inquiry

This is a review of "Systematic Inquiry," the last informal diagnosis module. In this module, participants learn to gather data about a child's learning style.

The facilitator begins the module by doing one demonstration of systematic inquiry. The facilitator should consider using the same worksheet as was used in the task analysis and error pattern analysis demonstrations. This illustrates that all three methods can be used on one worksheet and gives continuity to the three informal diagnosis modules.

In Activity 4a, the participants complete the systematic inquiry procedure on one worksheet specified by the facilitator. It is recommended that this be the same worksheet used in Activity 2a of the task analysis module.

In Activity 4b, the participants remain in the same dyads they were in for Activity 4a. Each person finds the two worksheets he and his previous partners had task analyzed and completed an error pattern analysis on. For this activity, he and his partner will complete the systematic inquiry procedures on those two sheets and the two sheets of his partner. Each dyad will do a systematic inquiry of four worksheets. Each person will record only the systematic inquiries of his two worksheets on Recording Sheets 5a and 6a.

In Activity 4c, the participants form new dyads. They complete a systematic inquiry of the two subtests that each person had previously task analyzed, and completed an error pattern analysis on. Although the dyad will work on two subtests, each person will record the systematic inquiry only from his subtest on Recording Sheet 7a.

If participants forgot to bring worksheets and subtests, the facilitator should tell them to use the worksheets and subtests that they used in the previous modules.

The most difficult part about this module is separating a check from the systematic inquiry, or modification. The facilitator should constantly review the participants' work to be sure they have made this differentiation.

The facilitator will have to work hard in checking the participants' systematic inquiries. Since these worksheets were brought by the participants, the facilitator will not have seen them previously.

The group should be called back together after Activity 4c for a discussion about systematic inquiry.

Objectives for the Module

1. The participants, given one academic worksheet that has been previously task analyzed, will write a method for checking each subtask in the "Check" column and will write at least two systematic inquiries for each subtask in the "Systematic Inquiries" column of the recording sheet, with 90% accuracy.

2. The participants, given four worksheets (two selected by each member of the dyad), will write a method for checking each subtask in the "Check" column and will write at least two systematic inquiries for each subtask in the "Systematic Inquiries" column of the Recording Sheet, with 100% accuracy.

3. The participants, given two subtests (one selected by each member of the dyad), will write a method for checking each subtask in the "Check" column and will write at least two systematic inquiries for each subtask in the "Systematic Inquiries" column of the Recording Sheet, with 100% accuracy.

Materials Needed for the Module

Facilitator Materials

Activity Notes

blank transparencies

overhead projector

marking pens

1 transparency of the Continuum of Services

1 transparency of the Demonstration, "Numeral Sequencing"

1 transparency of Recording Sheet for the demonstration, "Numeral Sequencing"

Systematic Inquiries by Previous Participants of Worksheet 4

Participant Materials

1 Activity Sheet 4a per participant

1 copy of Worksheet 4 per participant

1 copy of Recording Sheet 4a per participant

1 copy of Systematic Inquiries by Previous Participants of Worksheet 4 per participant

1 Activity Sheet 4b per participant

2 worksheets brought by each participant

1 Activity Sheet 4c per participant

1 subtest brought by each participant

1 copy of Recording Sheets 5a, 6a, 7a per participant

Time Needed to Complete the Module

Approximately one hour and 30 minutes will be needed for the participants to complete the module.

ACTIVITY NOTES

Activity Notes for Systematic Inquiry

(PUT THE CONTINUUM OF SERVICES TRANSPARENCY ON THE OVERHEAD.)

1. Now we have reviewed the processes of task analysis and error pattern analysis. The last step in the informal diagnostic process is systematic inquiry. In this module we try to pinpoint what skills a child can and can't do even further.

2. In systematic inquiry, we look at each task and ask ourselves, "If the child couldn't do the task, how could I change it so he might be able to do it?"

   a. Then you modify the task and ask the child to do it in the way you've modified it to see if he can now do it.

   b. If he can do it in the way you've restructured the task, you have a clue to his learning style.

   c. What you're doing is restructuring the tasks in such a way as to control the range of possible sources of error.

3. Task analysis identified the subtasks necessary to complete the objective. The list of subtasks represents a range of possible sources of error.

4. In order to identify the specific causes for a child's failure on a task, we restructure the task. We do systematic inquiry to assess the amount and kind of assistance the child needs to do the task.

5. There are two ways to modify the task, laterally and downwardly. A lateral modification provides another example of the same task. For example, if a child had trouble completing a worksheet on beginning consonants from one reading series, you would give him a similar worksheet, but from another reading series. A downward modification is a more substantial modification of the task. An example of a downward modification of the beginning consonant worksheet would be to decrease the amount of work on the sheet to include only words beginning with c and d. What are some of the downward modifications that you've been using?

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD AND RECORD RESPONSES. EXAMPLES OF RESPONSES ARE:

   a. provide fewer choices,
   b. simplify the response the child must make,
   c. make the items more different from each other,
   d. make the task concrete,
   e. modify the way you present the stimulus,
   f. change key words in the directions.)

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD AND WRITE THESE TWO RULES.)

6. There are two rules to remember when you are applying systematic inquiry.

   a. Make as minor an alteration as possible.

      The restructured task should be as similar to the original task as possible. This ensures that the original skill is still being assessed.

   b. Make only one alteration in a task at a time.

      When you make only one alteration at a time and the child can then learn a task because of that modification, you have definitely pinpointed a way to teach him. For example, if I change a subtask so the child can use concrete materials when he is doing it and I find that this modification lets him complete the task successfully, I have gained information about how the child learns. I know he can do a subtask if he can use concrete materials. This kind of information will help me when I am planning a prescriptive program for him.

7. There may be some tasks for which no modification is possible. You just have to teach that subtask. For example, if a child does not understand certain words in the directions for which there are no substitutes, you must teach them to him.

8. We make inquiries in a specific order.

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD AND WRITE THESE POINTS.)

   a. The first inquiry we usually make is to change the task so it calls for an alternative response. For example, if a child has trouble writing an answer, have him say it instead.

   b. If the child still can't do the task after we've asked him to respond in a different way, then we:

      1) Administer the checklist we constructed for each subtask and find out which subtasks the child can't do.

      2) Then, we modify the subtasks he can't do.

         a) We make changes such as modifying the way we present the task, making it more concrete and so forth.

9. Any questions or comments about "Systematic Inquiry?"

(PUT A TRANSPARENCY OF THE DEMONSTRATION, "NUMERAL SEQUENCING," ON THE OVERHEAD. THIS IS THE SAME WORKSHEET USED IN THE TASK ANALYSIS AND ERROR PATTERN ANALYSIS DEMONSTRATIONS. ALSO TELL THE PARTICIPANTS TO FIND THEIR COPY OF THIS WORKSHEET TO REFER TO.)

10. Find the worksheet that we used for the task analysis and error pattern analysis demonstrations, "Numeral Sequencing."

11. Let's apply the process of systematic inquiry to it.

(PUT A COPY OF THE RECORDING SHEET ON THE OVERHEAD. THE TASK ANALYSIS FOR THIS WORKSHEET HAS ALREADY BEEN FILLED IN.)

12. First, let's go over the task analysis:

    a. attends to the teacher and task,

    b. demonstrates an understanding of the key words in the directions (before, after, in between),

    c. identifies numerals,

    d. partial counts backwards by ones, (Part A)

    e. partial counts forward by ones, (Parts B, C and D)

    f. matches number name with symbol,

    g. writes numeral on line.

13. Now let's apply the process of systematic inquiry. Following our rules, we would first change the task to allow for an alternative response. This is the most minor change we can make.

14. So, I would present the same test to the child but ask him for a verbal, instead of a written, response. I would say, "Tell me which number comes before, and which number comes after, and which number comes in between."

15. Let's say the child still doesn't do well on the test, even though I have provided for an alternative response. I then go to Rule Two and administer the checklist to him.

16. The first subtask concerns attending to the task and/or teacher.

17. To develop a check for the first subtask, attending to the task and/or teacher, you first must define what attending is using observable terms. Set a time limit as part of your definition. Is it five seconds of eye contact with the page? Thirty seconds? Then observe to see if the child is attending, according to your definition.

(RECORD THE CHECKS IN THE "CHECKS" COLUMN.)

18. If I administer this check to the child and find he isn't attending, the following systematic inquiries might be made:

    a. use cue words
    b. use clickers
    c. decrease amount of work
    d. set up a system where you reward him for attending.

(RECORD THESE ON THE TRANSPARENCY UNDER "SYSTEMATIC INQUIRIES." DO THIS WITH ALL THE FOLLOWING SYSTEMATIC INQUIRIES.)

19. The second subtask concerns demonstrating an understanding of the key words in the directions. There are several key words in the directions such as "before," "after," and "in between."

20. You need to test the child's knowledge of each. For example, you could place three chairs in a row and ask him to tell you which one comes "before this one," and "in between," and so forth.

21. Some systematic inquiries would be:

    a. change the word "before" to "in front of," change "after" to "in back of," etc.
    b. teach these concepts.

22. Identifies numerals is the next subtask. To check the child out on this you could show him individual number cards and ask him to tell you what the number is.

23. If he misses any numbers, you could:

    a. tell him the number
    b. use dots and ask him to count these
    c. use larger numbers.

24. Partial counting backwards by ones. To check to see if he can do this we would ask him to count backwards from 10-1, or from 5-2, for example.

25. If he has trouble with this:

    a. tell him to think of the rocket "count down"
    b. let him use concrete objects
    c. teach him to partial count.

26. For part B, C, and D the child must partial count forward by ones. To check this we would ask him to count from 3-10.

27. If ne us unable to do this we could:

    a. let him count on his fingers
    b. teach him to count.

28. To check out if he can match number names to symbols you could say a number and have him point to it on a card of numbers.

29. Some systematic inquiries are:

    a. give him cards with numbers 1-10 on them. Have him select the answer.
    b. put dots representing the quantity of the numbers next to the numbers.

30. The last task is writing the numeral. To check this you would ask the child to write the numerals 1-10.

31. Some systematic inquiries for this are:

    a. have him tell you the number instead of writing it
    b. have him select the answer from cards with numbers written on them.

32. Does anyone have any questions or comments about "Systematic Inquiry?"

33. If a child cannot do a task, you develop checks for every subtask. However, you only develop systematic inquiries for those subtasks the child cannot do. In "real life," the child might miss only one or two of these subtasks. So, although you would check the child out on all the subtasks, you would develop systematic inquiries only for those he missed. For the sake of practice, we are going to ask you to develop checks and systematic inquiries for every subtask.

34. Now you will have a chance to review your skills by doing a systematic inquiry of the same worksheet on which you have done a task analysis and error pattern analysis.

(HAND OUT ACTIVITY SHEET 4a.)

Activity Sheet 4a

1. Find your task analysis Worksheet 4 and Recording Sheet 4a.

2. Find the partner that you had when you completed Activity 2a, task analyzing the "money amount" worksheet.

3. Select a method for checking each subtask and write it in the "check" column.

4. Select at least two systematic inquiries for each subtask and write them in the "Systematic Inquiries" column. Be sure they are modifications of the subtask and not checks.

5. Compare your inquiries with those chosen by previous participants.

6. Select your inquiries, those chosen by previous participants, or a combination of both, as your final set of inquiries.

(AFTER ABOUT FIFTEEN MINUTES, HAND OUT ACTIVITY SHEET 4b.)

Activity Sheet 4b

1. Find the two worksheets that you have previously task and error pattern analyzed, and the Recording Sheets 5a and 6a.
2. Remain with your partner from the last activity. Each dyad will work with four worksheets.
3. Select a method for checking each subtask on each worksheet and write it in the "Check" column.
4. Select at least two systematic inquiries for each subtask on each worksheet and write them in the "Systematic Inquiries" column. Be sure they are modifications of the task and not checks.
5. Discuss each completed systematic inquiry sheet with a facilitator.
6. Although you and your partner will complete a systematic inquiry on all four worksheets, record the checks and systematic inquiries only for your two worksheets.

(AFTER ABOUT THIRTY MINUTES, HAND OUT ACTIVITY SHEET 4c.)

Activity Sheet 4c

1. Find the one subtest that you have previously task and error pattern analyzed, and the Recording Sheet 7a.
2. Find a new partner who also has one subtest. Each dyad will work with two subtests.
3. Select a method for checking each subtask and write it in the "Check" column.
4. Select at least two systematic inquiries for each subtask and write them in the "Systematic Inquiries" column.
5. Discuss each completed systematic inquiry sheet with a facilitator.
6. Although you and your partner will complete a systematic inquiry on two subtests, record the checks and systematic inquiries only for your subtest.
7. Return to the large group for discussion.

(AFTER ABOUT FIFTEEN MINUTES, ASK THE PARTICIPANTS TO RETURN TO THE LARGE GROUP FOR DISCUSSION. DISCUSS THE FOLLOWING POINTS AND RECORD RELEVANT COMMENTS ON A TRANSPARENCY.)

36. Let's discuss your reactions and thoughts about systematic inquiry.

37. Have you used systematic inquiry?

38. What problems have you experienced with it?

39. What are some solutions to these problems?

(THE FACILITATOR MAY PUT A TRANSPARENCY ON THE OVERHEAD WITH THE HEADING PROBLEMS | SOLUTIONS TO RECORD RESPONSES FOR QUESTIONS 38 AND 39.)

40. Have you informally taught systematic inquiry to others?

41. How did that go?

42. What problems occurred?

43. What are the solutions?

44. What are your future plans for using systematic inquiry?

45. Are there any further questions or comments about systematic inquiry?

46. This finishes our review of informal diagnostic techniques.

DEMONSTRATIONS

Systematic Inquiry

Use in Systematic Inquiry Demonstration.

Task Analysis	Check	Systematic Inquiries
1. Attends to teacher/task.		
2. Demonstrates an understanding of the key words in the directions.		
3. Identifies numerals.		
4. Partial counts backwards by ones. (Part A)		
5. Partial counts forward by ones. (Parts B, C, and D)		
6. Matches number name with symbol.		
7. Writes numeral on line.		

ACTIVITY SHEETS

Systematic Inquiry

Activity Sheet 4a

1. Find your task analysis Worksheet 4 and Recording Sheet 4a.

2. Find the partner that you had when you completed Activity 2a, task analyzing the "money amount" worksheet.

3. Select a method for checking each subtask and write it in the "Check" column.

4. Select at least two systematic inquiries for each subtask and write them in the "Systematic Inquiries" column. Be sure they are modifications of the subtask and not checks.

5. Compare your inquiries with those chosen by previous participants.

6. Select your inquiries, those chosen by previous participants, or a combination of both, as your final set of inquiries.

Systematic Inquiry

Activity Sheet 4b

1. Find the two worksheets that you have previously task and error pattern analyzed, and the Recording Sheets 5a and 6a.

2. Remain with your partner from the last activity. Each dyad will work with four worksheets.

3. Select a method for checking each subtask on each worksheet and write it in the "Check" column.

4. Select at least two systematic inquiries for each subtask on each worksheet and write them in the "Systematic Inquiries" column. Be sure they are modifications of the task and not checks.

5. Discuss each completed systematic inquiry sheet with a facilitator.

6. Although you and your partner will complete a systematic inquiry on all four worksheets, record the checks and systematic inquiries only for your two worksheets.

Systematic Inquiry

Activity Sheet 4c

1. Find the one subtest that you have previously task and error pattern analyzed, and the Recording Sheet 7a.

2. Find a new partner who also has one subtest. Each dyad will work with two subtests.

3. Select a method for checking each subtest and write it in the "Check" column.

4. Select at least two systematic inquiries for each subtask and write them in the "Systematic Inquiries" column.

5. Discuss each completed systematic inquiry sheet with a facilitator.

6. Although you and your partner will complete a systematic inquiry on two subtests, record the checks and systematic inquiries only for your subtest.

7. Return to the large group for discussion.

PREVIOUS PARTICIPANT SHEETS

Systematic Inquiry

Task Analysis, Checks and Systematic Inquiries by Previous Participants of Worksheet 4.
(Use in Activity 4a)

Task Analysis	Check	Systematic Inquiries
1. Attends to task.	Observe to see if he has eye contact with the page for _____minutes.	a. Tap him on the shoulder as a reminder. b. Reduce number of problems on page.
2. Demonstrates an understanding of the key words in the directions.	Ask him to explain what the words mean.	a. Change the key words to others he may understand better.
3. Reads directions.	Ask him to read the directions aloud.	a. Read the directions to him.
4. Identifies numerals.	Ask him to tell you the individual numbers 0-9 as you point to them.	a. Teach him the numbers.
5. Reads numeral amount.	Ask him to read the amounts to you.	a. Reduce to lower amounts (start off with only dollars in the ones column.) b. Tell him the amount.
6. Matches $ symbol with word "dollars".	Ask him what the $ symbol means.	a. Teach him that it means dollars. b. Show him that the word "dollars" is written on the page.
7. Matches . symbol with word "and".	Ask him what the . point means	a. Tell him it means "and."
8. Matches numeral with number words.	Ask him to write words for the numbers you dictate.	a. Have the words written on the bottom of the page, so he can copy them in his combination. b. Teach him the proper spelling.
9. Converts decimal fraction to common fraction.	Ask him to write .54 as a common fraction, for example.	a. Teach him this concept.
10. Writes answer.	Ask him to write it.	a. Have him tell you the answer. b. Have him find the answer from alternatives on the bottom of page and copy the answer.

ACTIVITY NOTES

Activity Notes for Summarizing Defining the Problem and Informal Diagnostic Techniques

(PUT THE CONTINUUM OF SERVICES TRANSPARENCY ON THE OVERHEAD.)

1. When beginning the process of informal diagnosis, we first looked at a way to identify the problem. From this activity, we ended up with a statement of a child's problem.

2. Next, we looked at some informal diagnostic techniques that would help us gather more information about the child so that we could define the problem more thoroughly.

3. We reviewed task analysis which is isolating, describing and sequencing subtasks. In task analysis, we practiced stating our tasks in observable, behavioral terms. We also used an action verb and an object in each subtask.

4. We reviewed error pattern analysis and came up with some tentative conclusions of the error patterns on the child's worksheets.

5. We looked again at systematic inquiry. We reviewed writing checks for each subtask. Then we practiced modifying those subtasks the child can't do so we could gather more information about his learning style.

6. Now, we're ready to move into the "Designing the Program" phase of the continuum. But first, we need to summarize what our child can and can't do and decide on some priorities for our programming.

FACILITATOR NOTES

Facilitator Notes for Discovering What The Child Can And Can't Do

This module is a summary activity. It ties together the four informal diagnostic modules with the upcoming prescriptive programming ones. It provides participants with an opportunity to summarize the informal diagnostic data gathered on the child whose work and tests they have brought with them. It also presents a form for organizing this data into categories of what skills the child has and doesn't have, notes about the child's learning style and what further information is needed to plan the prescriptive program.

The participants need to find all of the worksheets and tests they brought with them and the task analyses, error pattern analyses and systematic inquiries that they have completed for these worksheets and tests.

On the form they can list the information they gained from analyzing the worksheets and tests plus any other information they have concerning the child. This might be behavioral data that they have gathered by observation or teacher conference, further formal or informal diagnostic information, and so forth.

When the participants are analyzing their data, it is advisable not to let them state that the child can or can't do something based on one piece of information. For example, if a child wrote on a math test that 5 x 7 = 40, we can't tell if the child really doesn't know that fact or if he made a random error, based on only one instance. Many things will probably need more confirmation.

Objective of the Module

1. The participants will list:
   a. what skills the child can do,
   b. what skills the child can't do,
   c. what further information is needed, and
   d. notes on the child's learning style

   with 100% accuracy based on information from the worksheets and subtests brought by them.

Materials Needed for the Module

Facilitator Materials

- 1 transparency of Worksheet 12
- overhead projector
- marking pens
- 1 transparency of the Continuum of Services
- blank transparencies

Participant Materials

- 1 copy of Worksheet 12 per participant
- 1 Activity Sheet 5a per participant
- 1 set of materials per participant containing:
  - 1 completed subtest
  - 2 completed worksheets

...continued next page

2 task analyses, error pattern analyses and systematic inquiries completed for the worksheets and subtest

Time Needed to Complete the Module

This module takes approximately 30 minutes to complete.

ACTIVITY NOTES

Activity Notes for Discovering What the Child Can and Can't Do

(PUT THE CONTINUUM OF SERVICES TRANSPARENCY ON THE OVERHEAD.)

1. When we used the process of task analysis, we found out what each objective required the child to do.

2. During error pattern analysis, we made tentative conclusions about the pattern of errors the child was making.

3. When using systematic inquiry, we began to gather data on the child's learning style.

4. In this activity we want to examine the information we've gathered through informal diagnostic techniques and put this data into a format that we can refer to when writing prescriptive programs.

(PUT TRANSPARENCY OF WORKSHEET 12 ON THE OVERHEAD.)

5. This is the form that we used in recording information about our example child, Sally. The titles of the columns are: "Can Do," "Can't Do," "More Information Needed," and "Learning Style".

6. We want you to fill in this sheet now, using information about the child whose work you brought with you. Please take out the two worksheets and one subtest that your child completed. You will also need the task analyses, error pattern analyses and systematic inquiries that you have done on these worksheets and subtest.

7. You can also list on this form other information about the child that you may have gathered from observation, testing or teacher consultation. But keep in mind that we usually can't state definitely that the child can or can't do something based on one incidence. For example, if the child wrote that 5 x 7 = 40 on a math worksheet, we cannot determine if the child really didn't know that fact or if he made a random error.

(HAND OUT ACTIVITY SHEET 5a AND WORKSHEET 12. HAVE THE PARTICIPANTS FIND THE REQUIRED WORK.)

Activity Sheet 5a

1. Find the worksheets and subtest you brought to the workshop.

2. Find your task analyses, error pattern analyses and systematic inquiries of these three items.

3. Individually, analyze your set of papers.

4. Based on your analysis, list what skills the child can and can't do, what skills you still need more information on, and some clues to the child's learning style on Worksheet 12.

5. Join the large group for discussion.

(AFTER THE PARTICIPANTS HAVE FINISHED ACTIVITY 5a, CALL THEM BACK TOGETHER FOR LARGE GROUP DISCUSSION.)

8. On your worksheets, you have listed lots of skills your child doesn't have. Now you need to establish your priorities.

9. What elements will you consider when you are selecting a priority?

(RECORD RESPONSES ON A TRANSPARENCY.)

10. Take a minute to look over your list of skills your child doesn't have and choose one of these as your first priority for instruction.

11. Write the priority you select at the top of Worksheet 12.

(AS THE FACILITATOR IS SAYING THIS, HE SHOULD WRITE THE FOLLOWING ON A BLANK TRANSPARENCY: INFORMAL DIAGNOSTIC INFORMATION ⟶ SKILLS THE CHILD CAN AND CAN'T DO ⟶ PRIORITIES ⟶ OBJECTIVES.)

12. Have you been using this form?

13. How has it worked?

(RECORD THE FOLLOWING PROBLEMS AND SOLUTIONS ON A TRANSPARENCY WITH THE HEADING PROBLEMS | SOLUTIONS.)

14. What problems are you having with it?

15. What are some solutions to these problems?

16. We've gathered some informal diagnostic information, and some notes on the child's style of learning. We analyzed it and came up with a list of skills the child doesn't have. We then selected a skill that was our first instructional priority. We can now start designing a prescriptive program based on priorities. The first question we need to ask is, "What objectives are suggested for the child's program based on the information we've collected?"

ACTIVITY SHEETS

Discovering What the Child Can and Can't Do

Activity Sheet 5a

1. Find the worksheets and subtest you brought to the workshop.
2. Find your task analyses, error pattern analyses and systematic inquiries of these three items.
3. Individually, analyze your set of papers.
4. Based on your analysis, list what skills the child can and can't do, what skills you still need more information on, and some clues to the child's learning style on Worksheet 12.
5. Join the large group for discussion.

WORKSHEETS

DISCOVERING WHAT THE CHILD CAN AND CAN'T DO

Worksheet 12
(Use in Activity 5a)

CAN DO	CAN'T DO	MORE INFORMATION NEEDED	LEARNING STYLE

FACILITATOR NOTES

Facilitator Notes for Behavioral Objectives

This module provides practice in writing behavioral objectives and in task analyzing long and short range objectives.

The participants will write behavioral objectives for instructional programs based on the priorities they have established for the child whose work they have brought with them.

The facilitator should check the work being done by the participants very carefully to make sure they are writing their behavioral objectives and task analyses correctly.

Objectives of the Module

1. The participants, given information concerning a child, will write one appropriate long range objective for that child's prescriptive program that includes three components of an objective.

2. The participants, after writing the long range objective, will write a task analysis of this objective with 100% accuracy.

3. The participants, after writing a task analysis of the long range objective, will write one short range objective for teaching one task mentioned in the task analysis. This objective will include the three components of an objective.

4. The participants, after writing one short range objective, will write a task analysis for this objective with 100% accuracy.

Materials Needed for the Module

Facilitator Materials

Activity Notes

1 transparency of Worksheets 13 and 14

overhead projector

marking pens

1 transparency of Continuum of Services

Participant Materials

1 Activity Sheet 6a per participant

1 copy of Worksheets 13 and 14 per participant

Time Needed to Complete the Module

This module takes about one hour to complete.

ACTIVITY NOTES

Activity Notes for Behavioral Objectives

(PUT THE CONTINUUM OF SERVICES TRANSPARENCY ON THE OVERHEAD.)

1. Based on the informal diagnosis we've done, our listing of what skills our child can and can't do and our selection of a skill, we can now start designing a prescriptive program. When designing such a program, we first need to ask, "What objectives are suggested for the program, based on the information we've collected?"

(PUT A TRANSPARENCY OF WORKSHEET 13 ON THE OVERHEAD.)

2. This is the form we used when we wrote behavioral objectives and task analyzed these objectives.

3. Let's just quickly review the different components of an objective.

   a. Who: For whom is the objective written?

   b. Behavior: What must be done?

   c. Conditions: When, where, how, etc.?

   d. Criteria: How well must it be done?

4. I'll go over a demonstration of writing long and short range objectives. Remember that a long range objective is more global, covers a relatively longer period of time and is less specific. We can write a long range objective for something we want the child to accomplish by the end of the year. We may write one or many short range objectives to meet this long range objective. When one short range objective is accomplished, you move on to the next.

5. Here is a sample of a long range objective.

(WRITE THIS ON A TRANSPARENCY OF WORKSHEET 13.)

   a. Who: the child

   b. Behavior: will complete a page of 15 subtraction problems that have two digit minuends and subtrahends

   c. Conditions: by June 1, 1977

   d. Criteria: with eighty-five percent accuracy.

6. The task analysis of this long range objective is:

(WRITE THIS ON A TRANSPARENCY OF WORKSHEET 13.)

a. attends to task,

b. demonstrates an understanding of the key words and concepts in the directions (minus, subtract, etc.),

c. identifies numerals,

d. matches numeral symbol with quantity,

e. computes subtraction problems with one digit minuends and subtrahends,

f. computes subtraction problems with two digit minuends and subtrahends.

7. Looking at this task analysis, I want to write one short range objective that deals with demonstrating an understanding of the key words and concepts, more specifically, the word "minus."

8. My short range objective is:

(WRITE THIS ON A TRANSPARENCY OF WORKSHEET 14.)

a. Who: the child

b. Behavior: will say "take away"

c. Conditions: within two seconds of being shown a card with a minus sign on it by his teacher

d. Criteria: correctly, four out of four times.

9. A task analysis of this objective is:

(WRITE THIS ON A TRANSPARENCY OF WORKSHEET 14.)

a. attends to teacher,

b. demonstrates an understanding of the key words and concepts in the directions,

c. matches minus sign with response, "take away" by verbally saying "take away."

10. Please form dyads and write one long range and one short range objective based on the priorities you have set for your child. Work together when you are writing these. First, write the long range objectives for both of the children whose programs you are working on. When you finish that, write short range objectives for both children. Each of you will write four objectives, two long range and two short range.

11. Record only the objectives for your child on Worksheets 13 and 14.

12. Each dyad will also do four task analyses, two for each child.

13. Record only the task analyses for the objectives for your child on Worksheets 13 and 14.

(HAND OUT ACTIVITY SHEET 6a, AND WORKSHEETS 13 AND 14.)

Activity Sheet 6a

1. In dyads, write one long range objective for your child and one long range objective for your partner's child, based on the priorities you have set for them.

2. Write the long range objective only for your child on Worksheet 13.

3. Discuss these with a facilitator.

4. Do a task analysis of these two long range objectives.

5. Record the task analysis only for your child on Worksheet 13.

6. Based on the task analyses, write one short range objective for your child and one for your partner's child.

7. Write the short range objective only for your child on Worksheet 14. Be sure it corresponds to the long range objectives.

8. Discuss them with a facilitator.

9. Task analyze your short range objectives.

10. Record the task analysis only for your child on Worksheet 14.

ACTIVITY SHEETS

Behavioral Objectives

Activity Sheet 6a

1. In dyads, write one long range objective for your child and one long range objective for your partner's child, based on the priorities you have set for them.
2. Write the long range objective only for your child on Worksheet 13.
3. Discuss these with a facilitator.
4. Do a task analysis of these two long range objectives.
5. Record the task analysis only for your child on Worksheet 13.
6. Based on the task analyses, write one short range objective for your child and one for your partner's child.
7. Write the short range objective only for your child on Worksheet 14.
8. Discuss them with a facilitator.
9. Task analyze your short range objectives.
10. Record the task analysis only for your child on Worksheet 14.

WORKSHEETS

Worksheet 13
(Use in Activity 6a)

Behavioral Objectives

What are the objectives suggested by the information you have collected about this child?

Objectives	Who	(Behavior) What must be done	(Conditions) When, how, where, etc.	(Criteria) How well must it be done?
Long Range				
Tasks for Long Range				

Worksheet 14
(Use in Activity 6a)

Behavioral Objectives

What are the objectives suggested by the information you have collected about this child?

Objectives	Who	(Behavior) What must be done	(Conditions) When, how, where, etc.	(Criteria) How well must it be done?
Short Range				
Tasks for Short Range				

Facilitator Notes for Learning Methods

This module is a review of the Learning Methods module in the original workshop. This module also expands the principle of "unambiguous presentations of material."

Some basic learning principles are reviewed and the participants are introduced to "concept teaching" as a method to incorporate into the writing of learning sequences.

The participants should be asked to re-read Chapter 4 of Bateman's Essentials of Teaching and also Chapter 2 of Corrective Teaching. Since this module is given on the second day of the workshop, they should be given this reading assignment for the evening of the first day.

The facilitator should check carefully while the participants are writing their sequences to make sure they are incorporating the learning principles that were emphasized.

Objective of the Module

The participants will write a learning sequence which includes a behavioral objective, learning style modifications, and learning principles with 100% accuracy.

Materials Needed for the Module

Facilitator Materials

- Activity Notes
- 1 transparency of Continuum of Services
- blank transparencies
- overhead projector
- marking pens
- flash cards (for demonstration of irrelevant characteristics)

Participant Materials

- 1 copy of Essentials of Teaching per participant
- 1 copy of Corrective Teaching per participant
- 1 copy of Activity Sheet 7a per participant

Time Needed to Complete the Module

This module takes approximately one hour and 30 minutes to complete.

Activity Notes for Learning Methods

(PUT THE CONTINUUM OF SERVICES TRANSPARENCY ON THE OVERHEAD.)

1. Now we're ready to review the second step of prescriptive programming. We have our objectives. Now we need to decide what methods we will use to teach the objectives.

2. Remember that methods are the how to teach. The following are some examples of methods.

   a. one-to-one student-teacher interaction,

   b. auditory-visual approaches,

   c. positive reinforcement.

3. There's a difference between methods, the how to teach, and programs or materials, the what to teach.

   a. Distar is not a method, but directive teaching is the method on which Distar is based.

4. Task analysis can be used as a remedial method. In task analysis, we:

   a. establish an objective and break it down into small tasks or steps,

   b. sequence them,

   c. construct a checklist of tests for each subtask,

   d. administer the checklist to find out what subtasks the child can and can't do.

   e. teach the child the subtasks he can't do.

      1. When you're teaching these subtasks, you're moving in a sequential order from the first task the child can't do through the last task that, when the child performs it, signals that the objective has been met.

      2. So, task analysis has provided you with a sequenced lesson plan. You know what skill to teach first, second, etc.

5. Last night, you re-read Chapter 4 of Bateman and Chapter 2 of Corrective Teaching. Let's come up with a list of some learning principles that you have used to design prescriptions.

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD AND RECORD RESPONSES. SOME PRINCIPLES TO MENTION, IF PARTICIPANTS DON'T, ARE:

a. task analysis

b. directive teaching

c. one-to-one interaction

d. auditory-visual approaches

e. positive reinforcement

IF THE PARTICIPANTS DON'T INCLUDE "UNAMBIGUOUS PRESENTATION OF MATERIAL," THE FACILITATOR SHOULD MENTION IT.)

6. In this module, one thing we'd like to look at in detail is how to make presentations less ambiguous. Bateman talks about an ambiguous presentation on page 57. She mentions a teacher trying to teach the concept red. Every example she used was red but also round. Therefore, any time the child saw something round, like a wheel, he called it red. The lesson was unclear to him. He had not been able to differentiate between "redness" and "roundness."

7. Hopefully, at the end of this session, we will be able to understand the following.

   a. The important characteristics of a stimulus, like a letter, is what the learner must attend to in order to respond.

   b. The unimportant characteristics of the stimulus which the learner must not attend to.

   c. The ways in which the stimulus can be presented to make these distinctions clear and thus avoid confusion early in instruction.

8. Let's say we wanted to teach the word <u>mat</u>. The following is a task analysis of the word <u>mat</u>.

   a. attends to teacher/task,

   b. demonstrates an understanding of the key words in the directions,

   c. demonstrates left-to-right sequencing,

   d. matches a letter sound to the correct letter symbol,

   e. says the short "a" sound when he sees the letter "a" between two consonants in a three-letter word,

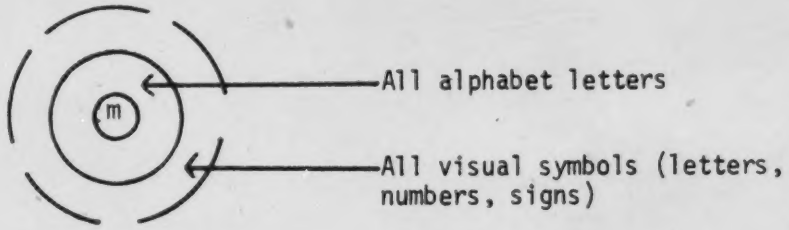
   f. blends the individual sounds into the word,

   g. says the whole word.

9. From this task analysis we know that one thing we have to teach the child is to say "mmm" when he sees the letter [m].

10. He must differentiate that letter from all other visual symbols. Presented schematically, it would look like this:

(RECORD THIS ON A BLANK TRANSPARENCY.)



He must differentiate [m] from all other alphabet letters and from all other visual symbols.

11. In order to be sure the child can differentiate the letter [m] and the sound of "mmm" from other letters and their sounds, we must ask ourselves, "What are the important characteristics of alphabet letters?" and "What are the important characteristics of letter sounds?"

What do you suggest?

(RECORD RESPONSES ON A BLANK TRANSPARENCY. RESPONSES SHOULD INCLUDE:

a. FORM: combination of straight and curved lines

b. CORRESPONDING SOUND: may be blended with other sounds to form meaningful words for purposes of communication.)

12. What must be considered are the important characteristics of [m] if it is to be visually discriminated from other letters of the alphabet and the important characteristics of "mmm" if it is to be discriminated from other sounds of letters.

13. These important characteristics such as form and sound should then be emphasized in the teaching presentation so the learner will be able to make the necessary discriminations.

14. I'm now going to present a teaching demonstration to you.

(THE FACILITATOR SHOULD

a. Select objects from around the room that are rectangular in shape, (e.g. books, eraser, cigarette packs, lighter, sheet of paper, match box, etc.)

b. Hold one object in his hand for all to see and say, "This is a 'Glick.'" Then, put the object down, hold up another and say, "This is a 'Glick.'"

c. After providing four or five examples, ask the group to tell you what a 'Glick' is. The likely response will be a rectangular object. Inform the participant of his/her error and ask for other suggestions.

d. When all possibilities are exhausted, do the following with the objects used before:

1. Pick up an object, say "This is a 'Glick.'"
2. Point to an object on the table, say "This is not a 'Glick.'"
3. Pick up another object, say "This is a 'Glick.'"
4. Place that same object on the table, saying "This is not a 'Glick.'"

3. Participants should start catching on to the fact that "A 'Glick' is an object that is held in the hand.")

15. Can you explain your initial confusion and how the change in stimuli helped you learn the concept of "Glick?"

16. How could the teaching demonstration be improved at the outset to avoid confusion?

(RECORD RESPONSES ON A TRANSPARENCY. THE FOLLOWING SHOULD BE INCLUDED:

a. More variety of size and shape of examples of Glick since these characteristics are irrelevant to the concept.

b. Include "not-instances" of Glick into demonstration sooner.)

17. Remember our objective is to teach the child to say "mmm" when he sees [m] . If that is our objective that means we also have an unwritten objective that, in the presence of "not - [m], the child will provide another response or no response at all.

18. What are some examples of "not - [m] ?"

(RECORD RESPONSES ON THE TRANSPARENCY. EXAMPLES INCLUDE:

a. visual symbols that are not letters (numbers, pictured objects, road sign)

b. other letters of the alphabet

c. sounds that do not have corresponding letters (a car running, a squeaky chair)

d. other letter sounds.)

19. This list represents the essential discriminations that must be learned to be sure that [m] = "mmm" has been taught. If a learner responds appropriately to the [m] stimulus in the presence of other visual stimuli, no matter how similar, the teacher can be assured that the skill has been learned.

20. Do you have any questions?

21. Now, you're going to be tested to see how well you have learned the [m] lesson.

(THIS DEMONSTRATION IS TO INTRODUCE THE TOPIC OF IRRELEVANT OR UNIMPORTANT CHARACTERISTICS. THE FACILITATOR SHOULD

a. present uniform [m] flash cards asking, "What's this? Is this 'mmm'?"

b. present [m] stimuli on chalkboard or with prepared cards in which the thickness of the lines, size of letter, and color are varied. Ask "Is this 'mmm'?" (They'll say "Yes.") Challenge them by referring to the uniform [m] card: "I thought you said this was 'mmm'."

c. Continue challenging participants with a variety of stimuli until they have been exposed to many examples of <u>unimportant characteristics</u>.)

22. What did this demonstration illustrate?

(RECORD THE RESPONSES ON THE TRANSPARENCY. THE FACILITATOR SHOULD MENTION THE FOLLOWING IF THE PARTICIPANTS DON'T.

a. Although visual symbols must be used to teach [m] = "mmm", the differences in size, width of line, color, etc., have nothing to do with the important features of the stimulus.

b. By varying the unimportant characteristics we further distinguish the important features of the stimuli.)

23. Why should unimportant characteristics be incorporated into teaching sequences?

(RECORD RESPONSES ON THE TRANSPARENCY. THE FACILITATOR SHOULD MENTION THE FOLLOWING, IF THE PARTICIPANTS DON'T.)

a. They serve as a test to assure that the child is responding to the important characteristics of the stimulus.

b. They add variety and act as a motivating factor in the teaching presentation.

c. They provide examples from which the child can generalize the response for [m] to a variety of stimuli.)

24. To summarize what we've talked about so far, when a teacher is planning a lesson she should

a. focus on the stimulus like the letter [m] ,

b. analyze the characteristics of the stimulus to determine which are relevant to learning the correct response and, therefore, cannot be altered. These are the important characteristics,

c. present not-instances and vary unimportant characteristics to focus the learner's attention on essential discriminations he must make in learning the concept.

25. So, if I were designing a lesson to teach the sound of "mmm", I would try to minimize error and confusion and maximize the learner's discrimination of important characteristics. I might do this by writing this kind of sequence.

(WRITE THE STEPS OF THE SEQUENCE ON A TRANSPARENCY.

a. This is "mmm". (Show a black letter card.)

b. Say it with me, "mmm."

c. This is "mmm." (Show a red letter card.)

d. Say it with me "mmm."

e. This is "mmm." (Show a big, black letter card.)

f. Say it with me, "mmm."

g. This is not "mmm." (Show a picture of a number.))

26. I begin the sequence by presenting the concept to be taught.

27. In step three, I am varying the irrelevant characteristic of color.

28. In step five, I am varying size - another unimportant characteristic.

29. In the last step, I am showing the child examples of not - [m] . The first examples you use should be grossly different from [m] . You could use numbers, pictured objects, and so forth. After the child could discriminate between those and [m] , you could introduce stimuli that were more like [m] (e.g. n, M, N, h, etc.).

30. In this example, I've included:

    a. stressing the important characteristic of form,

    b. varying the irrelevant characteristics of size and color,

    c. presenting numbers as not-instances.

31. I've also included other principles mentioned by Bateman and Corrective Teaching that were on our composite list, such as providing for practice, generalization and learner involvement.

32. The next activity we're going to do involves writing a short learning sequence. Refer back to your short range objective and write a sequence to meet this objective.

33. What are some of the important principles to remember when writing a sequence?

(RECORD RESPONSES ON A BLANK TRANSPARENCY. IF THE PARTICIPANTS DON'T MENTION THE FOLLOWING, THE FACILITATOR SHOULD.

1. Use signal words to gain the child's attention.

2. Each sequence is written for the teacher to use with a child on a one-to-one basis.

3. Each sequence teaches one skill in an

    a. uncluttered
    b. unambiguous way.

4. Task analysis is used.

5. Positive reinforcement is used.

6. Each sequence specifies certain entry skills.

7. Practice and repetitition are included to insure retention.

8. Use multisensory activities that allow for auditory, visual, and tactile experiences.

9. Provide for stimulus generalization.

10. Correction procedures are incorporated. If the child makes an error, the teacher is told what steps to repeat to recycle the child through the sequences.)

34. When you write your sequence, include some of these principles. Also be sure that you are stressing:

    a. the important characteristics of the concept you're teaching,

    b. the characteristics that really separate the concept from other like instances,

    c. the presentation of not-instances.

35. Please work on this activity in dyads. Each dyad will write two sequences. Please do them as a dyad, not individually. Be sure to specify your behavioral objective first.

36. There is one caution in using this technique to design lessons. Remember that eventually you have to fade out the irrelevant characteristics that you are emphasizing. Eventually, the child has to say "mmm" when he sees a small black m in a book. Even though you may teach him using the irrelevant characteristics and present some oversized, different colored or textured letters, eventually you must eliminate those cues. When you are writing your sequences, include some fade-out procedures.

(HAND OUT ACTIVITY SHEET 7a.)

Activity Sheet 7a

1. Select a partner.

2. Each person in the dyad should select a short range objective.

3. Together, design a learning sequence for each objective.

4. Besides a behavioral objective and some of the learning principles that were mentioned, your learning sequence should include steps that:

    a. stress the important characteristics of the concept you are teaching, the ones that really separate it from other similar examples,

b. vary the unimportant characteristics,

d. include fade-out procedures.

5. Discuss your sequences with a facilitator.

6. Return to the large group for discussion.

37. Have you been able to incorporate some of the learning principles we have mentioned into some of the prescriptive programs you have designed?

38. Were they successful?

39. What problems did you experience when you used some of these principles?

40. How could these problems be solved?

(RECORD THE RESPONSES TO QUESTIONS 39 and 40 ON A TRANSPARENCY WITH THE HEADING:

Problems	Solutions .)

ACTIVITY SHEETS

Learning Methods

Activity Sheet 7a

1. Select a partner.
2. Each person in the dyad should select a short range objective.
3. Together, design a learning sequence to meet each objective.
4. Besides a behavioral objective and some of the learning principles that were mentioned, your learning sequence should include steps that:
   a. stress the important characteristics of the concepts you're teaching, the ones that really separate it from other similar examples,
   b. vary the unimportant characteristics,
   c. present not-instances,
   d. include fade-out procedures.
5. Discuss your sequences with a facilitator.
6. Return to the large group for discussion.

Facilitator Notes for Task Analysis of Materials

This module provides a review of the "Task Analysis of Materials" module in the original workshop.

The participants should have been told previously to bring at least one instructional material that they are considering using with their referral child. The facilitator should have on hand extra materials in case some participants forgot to bring theirs.

The participants form dyads and each dyad task analyzes two materials, one provided by each dyad member.

If the materials are kits or series that contain more than one lesson, participants should be asked to task analyze only one of the lessons. They should select a lesson that is one their child might be assigned.

The facilitator should carefully check the work of each participant to make sure they are incorporating the principles of task analysis correctly.

It is possible to insert this module at the end of the "Task Analysis" module. The appropriate placement would be after Activity 2c. This modification would save some time if time limitations exist.

Objective of the Module

The participants will task analyze educational materials into their component subtasks and record their task analyses on the Recording Sheet with 100% accuracy.

Materials Needed for the Module

Facilitator Materials	Participant Materials
Activity Notes	1 Activity Sheet 8a per participant
blank transparencies	1 educational material per participant
overhead projector	1 Recording Sheet 15a per participant
marking pens	
extra educational materials	

Time Needed to Complete the Module

Approximately thirty minutes will be needed to complete this module.

Activity Notes for Task Analysis of Materials

1. We have already reviewed task analysis of academic worksheets and tests. Now let's apply the process of task analysis to instructional materials.

2. Let's remember that when we do a task analysis we:

   a. isolate, describe and sequence the subtasks needed for the child to complete the task,

   b. describe the subtasks in observable terms,

   c. use an action verb and object.

3. Task analyzing materials can give you information about their sequence of tasks. You can discover if skills and concepts are presented in an order you think is correct. It can also help you if a child is having trouble playing a game or using a material. You can find out what subtasks the child must be able to do in order to play the game or use the material and teach him those so he can use the material successfully.

4. When you are doing a task analysis of a material it is important to remember that some materials are composed of a variety of lessons and activities. Doing a task analysis of one of these lessons is not a task analysis of the entire program. So, don't base your evaluation of a material's sequence of skills on your analysis of only one of many lessons.

5. In this next activity you will need to find a new partner. Each member of the dyad has an instructional material to task analyze. Task analyze two materials but record only the task analysis of the material you brought on Recording Sheet 15a.

(HAND OUT ACTIVITY SHEET 8a AND RECORDING SHEET 15a.)

Activity Sheet 8a

1. Choose a partner.

2. Isolate, describe and sequence the subtasks of the material you brought to the workshop and the one your partner brought.

3. If you have brought a material that contains many different lessons in it, select one representative lesson to task analyze.

4. Write the task analysis of only your material on Recording Sheet 15a.

5. Discuss it with a facilitator.

6. At this time ignore the "Check" and "Systematic Inquiries" columns.

ACTIVITY SHEETS

Task Analysis of Materials

Activity Sheet 8a

1. Choose a partner.
2. Isolate, describe and sequence the subtasks of the material you brought to the workshop and the one your partner brought.
3. If you have brought a material that contains many different lessons in it, select one representative lesson to task analyze.
4. Write the task analysis of only your material on Recording Sheet 15a.
5. Discuss it with a facilitator.
6. At this time ignore the "Check" and "Systematic Inquiries" columns.

WORKSHEETS

Task Analysis of Materials

Recording Sheet 15a
(Use in Activity 8a)

Task Analysis	Check	Systematic Inquiries

Facilitator Notes For

Matching Learner Characteristics with Material Characteristics

This module is a review of the module in the first workshop which teaches participants how to evaluate educational materials to determine if they match a child's learning characteristics.

The participants should have previously been instructed to bring an instructional material to the workshop. The material they use in this activity is the same one they task analyzed in the last activity with 100% accuracy. If some participants forgot to bring their material, the facilitator should have extra ones for them.

The facilitator should check the work of the participants carefully to ensure that they are following correct procedures for evaluating materials.

Objective of the Module

1. The participants will evaluate two educational materials, and decide if the characteristics of the material match the characteristics of their referred child. They will do this using the criteria outlined on Worksheet 16.

Materials Needed to Complete the Module

Facilitator Materials

- Activity Notes
- blank transparencies
- overhead projector
- marking pens
- extra instructional materials
- 1 transparency of Worksheet 16, both pages
- 1 transparency of Continuum of Services

Participant Materials

- 1 Activity Sheet 9a per participant
- 1 educational material brought by each participant
- 1 copy of Worksheet 16, per participant

Time Needed to Complete the Module

Approximately 30 minutes is needed to complete the module.

Activity Notes for
Matching Learner Characteristics with Material Characteristics

(PUT CONTINUUM OF SERVICES TRANSPARENCY ON THE OVERHEAD.)

1. We are still in the phase of designing the prescription when we are evaluating material characteristics to see if they will match the characteristics of our learner.

(PUT A BLANK TRANSPARENCY ON THE OVERHEAD AND RECORD THE FOLLOWING.)

2. Let's review some of the important points of this module. Some things to consider when evaluating learner characteristics are:

   a. what does he need to be taught?

   b. where does he need to start?

   c. how does he learn best?

   d. what is the best way to present the information to him?

3. Some things to consider when evaluating material characteristics are:

   a. what does it teach?

   b. when does it start?

   c. how does it make provisions for learning styles?

   d. in what way does it present the information?

4. Now that we've gone through all our formal and informal diagnostic procedures to determine our learner's characteristics, and we've determined the objectives and the methods we want to use, we are ready for the final step which is selecting which materials to use. The materials should be appropriate for the methods and objectives we've already selected.

(HAND OUT WORKSHEET 16, AND PUT A TRANSPARENCY OF PAGE 1 OF THE FORM ON THE OVERHEAD.)

5. This is the form we used when matching material characteristics with learner characteristics. The middle column lists the criteria to use when evaluating the material characteristics. The last column is for describing specific examples of how the criteria is used in the material.

6. Let's review the criteria for evaluating the material.

7. The first criteria we want to examine is the sensory modality the child will use in order to receive the information from the material. Does the material require the child to use his auditory, visual, or tactile channels or a combination of these?

8. The response the material requires the child to make is the next criteria. Does the child need to make a verbal, motor or gestural response?

9. Is there a variety in the way the tasks are presented? For example, if the same task is presented several times in the same material, is there some difference in the presentation?

10. Is the sequence of tasks in the material correct?

11. What is the instructional level?

12. Are any reinforcement procedures built into the material?

(PUT A TRANSPARENCY OF PAGE 2 OF WORKSHEET 16 ON THE OVERHEAD.)

13. Does the material provide opportunities for the child to practice the skill it is teaching?

14. How many concepts are taught in each lesson?

15. How much time is needed for each lesson?

16. What is the format of the material?

17. What kind of teacher-learner interaction or presentation mode is required?

18. What other material characteristics do you notice that you would want to match up to learner characteristics?

(RECORD RESPONSES ON THE TRANSPARENCY.)

19. When you evaluate your material, first list the characteristics of your child that you have found through:

    a. informal diagnostic techniques
    b. formal diagnostic techniques
    c. observation
    d. teacher interviews
    e. other techniques.

20. Then, read each criteria and try to find specific examples of that criteria in the material you're evaluating. Write these examples in the left hand column.

21. When you're finished, you can compare the learner and material characteristics and decide if they match well enough for you to use that material with your child.

(HAND OUT ACTIVITY SHEET 9a AND WORKSHEET 16.)

Activity Sheet 9a

1. Choose a partner to form a dyad.
2. Evaluate the material you brought to the workshop and the one your partner brought.
3. Although you evaluate the materials together, complete Worksheet 16, for only your material.
4. List your child's learning characteristics in the "Learning Characteristics" column.
5. List specific examples of the principles you find your material uses in the left hand column.
6. Decide if the material's characteristics match your learner's characteristics.

22. Did your material match your learner?

23. Have you used this method for analyzing materials?

(RECORD RESPONSE TO QUESTIONS 24 AND 25 ON A TRANSPARENCY WITH THE HEADING PROBLEMS | SOLUTIONS.)

24. What problems have you found?

25. What are the solutions to these problems?

ACTIVITY SHEETS

Matching Learner Characteristics

With Material Characteristics

Activity Sheet 9a

1. Choose a partner to form a dyad.
2. Evaluate the material you brought to the workshop and the one your partner brought.
3. Although you evaluate the materials together, complete Worksheet 16 for only your material.
4. List your child's learning characteristics in the "Learning Characteristics" column.
5. List specific examples of the principles you find your material uses in the left hand column.
6. Decide if the material's characteristics match your learner's characteristics.

WORKSHEETS

Material Evaluation Form

Worksheet 16
(Use in Activity 9a)

LEARNER CHARACTERISTICS	CRITERIA FOR MATERIAL SELECTION	DESCRIBE THE MATERIAL IN TERMS OF THE CRITERIA USING SPECIFIC EXAMPLES
	1. Sensory modality(ies) (Input, reception)	
	2. Child Response Required (Output)	
	3. Variety of presentations of the tasks	
	4. Sequence of the tasks in the presentation	
	5. Instructional Level/Interest Level	

Worksheet 16
(Use in Activity 9a)

LEARNER CHARACTERISTICS	CRITERIA FOR MATERIAL SELECTION	DESCRIBE THE MATERIAL IN TERMS OF THE CRITERIA USING SPECIFIC EXAMPLES
	6. Reinforcement	
	7. Practice provided	
	8. Number of concepts taught in a lesson	
	9. Length of lesson	
	10. Format	
	11. Teacher-Learner Interaction	
	12. Other	

Facilitator Notes for Modifying Materials

This module is a new one and was not included in the original informal diagnosis and prescriptive programming workshop.

In this module three ways of modifying instructional materials are presented. They are:

1. modify using principles of systematic inquiry,
2. modify by:
   a. stressing important concepts,
   b. varying unimportant ones,
   c. presenting not-instances,
3. modify by incorporating more learning principles into the material's presentation.

The facilitator should have extra instructional materials on hand for participants who forgot theirs. These materials should also be available for participants to use in Activity 10b, if the material they brought is not appropriate for modification.

The facilitator should have available a set of Dolch Popper Numbers for the demonstration of modification by systematic inquiry. Self-Correcting Arithmetic, Book 1 is required for the demonstration of modification by incorporating learning principles. The demonstrations were written specifically for these materials. If the facilitator is unable to acquire these materials, similar ones should be obtained and the demonstrations should be revised. However, these demonstration materials were chosen because they are examples of materials that are widely used and that may require frequent modification. Materials meeting these requirements should be chosen if substitutes are needed.

The facilitator needs to check the work of the participants very closely to assure that they are using the principles for modifying materials appropriately.

It is possible to incorporate Activity 10a, modifying materials by systematic inquiry into Module 4, "Systematic Inquiry." Activity 10b, modifying materials by stressing important characteristics, varying unimportant characteristics and presenting not-instances and Activity 10c, modifying materials by incorporating learning principles, may be inserted at the end of Module 7, "Learning Methods." This offers an optional sequence to the presentation of this material. It also may save some time, if time limitations exist.

Objectives for the Module

1. The participants will write "checks" and "systematic inquiries" for the tasks of the educational material they had previously task analyzed with 100% accuracy.

2. The participants will modify an educational material so that it stresses important characteristics, varies unimportant ones and presents not-instances, with 90% accuracy.

3. The participants will modify an educational material so that more learning principles are included, with 90% accuracy.

Materials Needed for the Module

Facilitator Materials

transparency of Worksheet 17 with T.A. filled in

Dolch Popper Numbers

checksheet prepared for demonstration

extra instructional materials

transparency of learning principles

transparency of Recording Sheet for Activity 10c

Self-Corrective Arithmetic, book 1

blank transparencies

overhead projector

marking pens

flash cards for the second demonstration

Participant Materials

1 Activity Sheet 10a per participant

1 Copy of Recording Sheet 15a per participant

1 Educational material per participant

1 Completed Worksheet 16

1 Activity Sheet 10b per participant

1 Copy of Recording Sheet 17a per participant

1 Activity Sheet 10c per participant

1 Copy of Recording Sheet 18a per participant

Time Needed to Complete the Module

Approximately 1 hour and 30 minutes will be needed to complete the module.

Activity Notes for Modifying Materials

1. Now we're going to discuss modifying regular classroom materials. You may need to modify materials in many situations. Two of the most common are:

   a. When you're trying to keep a child in a regular classroom and you want to use as many of the materials already used there as possible. This would make the child appear less "different" and perhaps also appeal to the teacher because she wouldn't have to learn how to use a totally new material.

   b. Another reason why you might have to modify existing materials is a lack of money to buy any others.

2. We're going to discuss three general ways to modify materials.

   a. modify using the procedures of systematic inquiry,

   b. modify by:

      1. stressing important concepts,
      2. varying unimportant ones,
      3. presenting not-instances.

   c. modify by incorporating more learning principles into the material's presentation.

3. In our first activity we are going to modify a material using the principles of systematic inquiry. For this we'll use the material you task analyzed which is the one you brought to the workshop.

4. My material is the Dolch Popper Numbers. The teacher, when using these, says to the child:

   "We are going to practice division facts. Look at the card. Tell me the division fact. Then, tell me the answer." (If the child answers correctly, the teacher turns the card over and says, "Right. 14 divided by 2 is 7." If the child answers incorrectly, the teacher turns the card over and says, "No. 14 divided by 2 is 7.")

5. The task analysis of Dolch Popper Numbers is:

(PUT THE TRANSPARENCY OF RECORDING SHEET 15a, ON WHICH THE FOLLOWING TASK ANALYSIS HAS ALREADY BEEN WRITTEN IN THE LEFT-HAND COLUMN, ON THE OVERHEAD.)

   a. Attends to task/teacher,
   b. Demonstrates an understanding of the key words in the directions,
   c. Looks at card,
   d. Demonstrates an understanding of left-right sequencing,
   e. Says equation.

f. Matches equation with previously learned division fact,
g. Says answer,
h. Looks at back of card,
i. Attends to teacher.

6. When using systematic inquiry to modify materials, I follow the rules that apply to all systematic inquiries:

   a. first, I change the task so it calls for an alternative response,

   b. if the child still can't do the task after I've asked him to respond in a different way, then I:

      1. check him on each subtask separately
      2. modify those he can't do.

7. So, following the first rule of systematic inquiry - to provide an alternative response - I would first ask the child to write, instead of say, the answers.

8. If he still had difficulty using the Popper Numbers, then I would check him out on each subtask and modify those he couldn't do. For the sake of demonstration, let's say he couldn't do any of the subtasks.

(ON RECORDING SHEET 15a RECORD THE FOLLOWING CHECKS IN THE "CHECK" COLUMN AND THE SYSTEMATIC INQUIRIES IN THE "SYSTEMATIC INQUIRIES" COLUMN.)

9. The first subtask is "attends to teacher/task." As with worksheets and subtests, I would first define what "attends" is. Let's say it was looking at the number card for two seconds. I would check this by observing the child to see if he looked at the card for at least two seconds. If he couldn't do that, I would modify this task by:

   a. using cue words,
   b. using a clicker,
   c. setting up a system where I'd reward him each time he looked at the card.

10. Any other suggestions?

11. Next, I would check to see if he knew the meaning of the words in the directions. I would ask him what they mean. If he didn't:

    a. I would change the words, or
    b. I might try printing the directions on paper and giving them to him to read.

12. Any other suggestions?

13. "Looks at card" is the next subtask. I would check him by asking him to "look at the card." If the child didn't look, I might:

    a. point to the card as I said, "Look at the card," or
    b. take his head with my hand and guide his head so he would look at the card.

14. Any other suggestions?

15. "Demonstrates an understanding of left-to-right sequencing" is next. First I would check him out by asking him to point to where he is to start reading the division fact. If he doesn't know, you can modify the task by:

    a. putting a star where he is supposed to start, or
    b. drawing an arrow under the number fact showing the direction in which he is to read.

16. Any other suggestions?

17. "Says equation" is next. I would check to see if he could do it by asking him to say it.

    a. If he could talk but could not say the correct number names, I would probably backtrack and teach number names.

    b. If he had a problem talking, I would probably eliminate this task or have him write the answer instead of saying it.

18. Any other suggestions?

19. "Matches equation with previously learned division fact" is the sixth task. You could check him out by asking him to say the answer. Chances are this is where the breakdown will occur. If you find out he hasn't yet learned the task you could modify it by:

    a. putting some sort of visual clue along side the numbers, like lines or dots,

    b. giving the child counters and having him figure out the answers using those.

20. Any other suggestions?

21. "Says answer" is the seventh step. We have already talked about modifying this task when we spoke of the alternative response of writing the answer.

22. "Looks at back of card" is the eighth task. We can use the same checks and modifications for this as we did for subtask three.

23. "Attends to teacher" is the last one, and we could modify this as we did subtask one.

24. Any questions about applying systematic inquiry to modify educational materials?

25. Now apply this concept to the materials you previously task analyzed.

(HAND OUT ACTIVITY SHEET 10a.)

Activity Sheet 10a

1. Rejoin the partner you task analyzed a material with.
2. Together, modify the material you brought to the workshop and the one he brought.
3. First write checks for each of the tasks. Record the checks only for your material in the "Checks" column of Recording Sheet 15a.
4. Next, write systematic inquiries for each of the tasks. Record these only for your material in the "Systematic Inquiries" column of Recording Sheet 15a.
5. Discuss your responses with a facilitator.
6. Rejoin the large group.

26. In our second activity, we will concentrate on modifying a material so it incorporates the concepts of:

    a. stressing important characteristics,
    b. varying unimportant ones, and
    c. presenting not-instances.

27. This type of modification is best used when you are modifying materials that are teaching words, letter names and sounds, number facts and so forth. I don't think you could use this technique to modify a science book, for example.

28. Let's say the teacher of one of the children I'm working with is trying to teach him four sight words:

(WRITE THESE WORDS ON A TRANSPARENCY.)

    a. cat
    b. dog
    c. car
    d. doll.

29. The first modification I would make is to ask her to concentrate on teaching only one word at a time. I would also ask her to teach words that contrasted more in:

    a. length, and
    b. letters.

30. For example, if she first wanted to teach cat, I would ask her to teach wagon as her second word, is as her third and father as her fourth.

31. The most important characteristic about cat is the form of each individual letter. When these letters are combined, the word cat results. By making the other words more different from cat in length and the letters used in them, we have stressed the important characteristics of cat.

(HOLD UP FLASH CARDS OF WORDS: CAT, DOG, CAR, DOLL.)

32. Let's say her lesson was to take her original four words and present them on flashcards to the child. She would hold up one card and say, "What's this word?" If the child answered correctly, she'd say, "yes" and go on to the next card. If he answered incorrectly, she'd say "no, it is cat," and then go on to the next card.

33. My next step would be to talk to the teacher about stressing the unimportant characteristics of cat. I would ask her to present the word printed:

(HOLD UP FLASH CARDS OF "CAT" THAT STRESS UNIMPORTANT CHARACTERISTICS.)

    a. in black in regular size print;
    b. in red in regular print;
    c. in black in large print;
    d. in green in large print;
    e. in capital letters;
    f. with c capitalized and a and t in lower case;
    g. all in lower case, etc.

34. In these cases, I'm asking her to vary the unimportant characteristics of:

    a. size,
    b. color,
    c. upper and lower case.

35. Next, I would ask her to use not-instances in her teaching.

    a. This word is cat.
    b. This word is not cat. (Hold up the word father.)

36. Eventually, I would ask her to present words more like cat, for instance, car, which would be a finer discrimination for the child to make than between cat and father.

37. Any questions about how to use these principles to modify a material?

38. Please take your instructional material and decide how to modify it using these principles. If your material is not appropriate for this type of modification, please choose one of the additional materials we have provided.

(HAND OUT ACTIVITY SHEET 10b AND RECORDING SHEET 17a. THE FACILITATOR SHOULD HAVE SEVERAL MATERIALS AVAILABLE THAT ARE MORE CONDUCIVE TO THIS TYPE OF MODIFICATION FOR PARTICIPANTS WHOSE MATERIALS ARE NOT APPROPRIATE.)

Activity Sheet 10b

1. Form new dyads.

2. Find the material you brought to the workshop. If you would rather use a different material, select one from those the facilitator has available.

3. Together, modify the presentation of the material you and your partner brought, so it:

    a. stresses important characteristics,
    b. varies unimportant ones,
    c. presents not-instances.

4. Be specific. State what you are modifying and how you would modify it on Recording Sheet 17a.

5. Record the modifications only for your material.

6. Discuss your modifications with a facilitator.

7. Join the large group for discussion.

39. The third way to modify materials is to incorporate some of the learning principles we have talked about into their presentation.

40. In this activity, we will look at the material you brought in and consider how we can modify it so it better matches the child's learning characteristics.

41. Here is a list of some of the learning principles we've discussed.

(PUT A TRANSPARENCY LISTING THE FOLLOWING LEARNING PRINCIPLES ON THE OVERHEAD:

a. task analysis,
b. directive teaching,
c. one-to-one interaction,
d. auditory-visual approaches,
e. positive reinforcement,
f. unambiguous presentation of material,
g. practice.)

(PUT A TRANSPARENCY OF RECORDING SHEET 18a ON THE OVERHEAD.)

42. In the left column of the recording sheet, list very briefly the original presentation of the material.

In the middle column, list at least three learning characteristics of the child you have been studying during the workshop. Try to state these characteristics in observable terms.

In the last column, list your modifications. Be sure that any modifications you make match the child's learning characteristics. For example, if one of his characteristics is that he learns best in groups of no more than three, don't modify the material so it can only be used with the whole class. Also, in this column, list the principle that prompted your modification.

(THE FACILITATOR SHOULD SHOW THE PARTICIPANTS SELF-CORRECTING ARITHMETIC, BOOK 1, OR ANOTHER MATERIAL FOR THE FOLLOWING DEMONSTRATION.)

43. Let's say a teacher showed me this book that she had bought for a child because he was having trouble with math. She had noticed, however, that even though the book had five practice pages before the work page, the child still failed the work page.

44. There could be many reasons for this failure. Let's say that you want to try to modify this material's practice pages and see then if the child could do the work page.

45. Let's say we chose page 7 to modify. We are going to modify it by including more learning principles in its presentation.

46. First, we'll fill out the "Original Presentation" column on the worksheet. I will say that the original presentation is seven rows with three subtraction problems in each row. The minuends are double digit; the subtrahends are single digit and the answers are either 4, 5, 6, 7, 8, or 9. Pictures are presented as a visual aid. There is a "sequence" in the way the problems are presented as the subtrahend grows smaller and the answer larger.

(WRITE THESE IN THE FIRST COLUMN ON THE TRANSPARENCY.)

47. My learner characteristics are:

    a. the child learns best when material is presented to him through two or more channels,

    b. he learns best when plenty of practice is provided,

    c. he learns best when he works alone or in small groups.

(WRITE THESE IN THE MIDDLE COLUMN ON THE TRANSPARENCY.)

48. How will I modify? The first learning principle I want to include in this material is the one that stresses uncluttered presentations. I would:

    a. cover the page so only one row showed at a time or so only one box shows,

    b. try to white out the letters in the right hand corner,

    c. take the pictures larger and/or leave more white space between them. There's no way a child can count these by pointing to them without covering up more than one with his finger,

    d. you might want to change the pictures, too, to balls or something simple.

(WRITE THE LEARNING PRINCIPLE AND THE MODIFICATIONS IN THE LAST COLUMN ON THE TRANSPARENCY.)

49. Other suggestions?

50. Since my child learns best when materials are presented to him in a multisensory fashion, I would modify this page so the directions tell him that he should:

    a. read aloud the problems as well as look at them,

    b. have a peer read the problems to him while he looked at them,

    c. have a peer read them as he wrote them on paper, (This could be taped.)

    d. look at the problems and also solve them using concrete objects such as counters.

(WRITE THE LEARNING PRINCIPLE AND THE MODIFICATIONS IN THE LAST COLUMN.)

51. Other suggestions?

52. Since my child learns best when plenty of practice is provided, I would probably change this page so that each problem was presented twice. There would be fewer problems per page but more practice.

53. I might also supply a different type of practice. I might present one problem as it is presented here and right next to it present the same problem again but without the answer or pictures crossed off. The child would have to fill in the answer and also cross off the pictures. Besides providing practice, this would also be a multisensory approach.

(WRITE THE LEARNING PRINCIPLE AND THE MODIFICATIONS IN THE LAST COLUMN.)

54. There are many more learning principles I could incorporate in my modification of this page, but I think this gives you an idea. Please remember to state the learning principle as well as your modification.

(HAND OUT ACTIVITY SHEET 10c AND THE RECORDING SHEET 18a.)

Activity Sheet 10c

1. Form new dyads.
2. Find the materials you brought to the workshop.
3. Working together on one material at a time, complete Recording Sheet 18a.
4. Your modifications should include some of the learning principles from the list of principles.
5. Record your modifications and the learning principles that prompted them.
6. Discuss them with a facilitator.

55. Are these methods for modifying materials feasible for teachers to use?

56. Which ones would work best for which materials?

57. Was it possible to modify the materials to fit your learners?

ACTIVITY SHEETS

Modifying Materials

Activity Sheet 10a

1. Rejoin the partner you task analyzed a material with.

2. Together, modify the material you brought to the workshop and the one he/she brought.

3. First write checks for each of the tasks. Record the checks only for your material in the "Checks" column of Recording Sheet 15a.

4. Next, write systematic inquiries for each of the tasks. Record these only for your material in the "Systematic Inquiries" column of Recording Sheet 15a.

5. Discuss your responses with a facilitator.

6. Rejoin the large group.

Modifying Materials

Activity Sheet 10b

1. Form new dyads.

2. Find the material you brought to the workshop. If you would rather use a different material, select one from those the facilitator has available.

3. Together, modify the presentation of the materials you and your partner brought, so it:

   a. stresses important characteristics,
   b. varies unimportant ones,
   c. presents not-instances.

4. Be specific. State what you are modifying and how you would modify it on Recording Sheet 17a.

5. Record the modifications only for your material.

6. Discuss your modifications with a facilitator.

7. Joint the large group for discussion.

Modifying Materials

Activity Sheet 10c

1. Form new dyads.
2. Find the materials you brought to the workshop.
3. Working together on one material at a time, complete Recording Sheet 18a.
4. Your modifications should include some of the learning principles from the list of principles.
5. Record your modifications and the learning principles that prompted them.
6. Discuss them with a facilitator.

WORKSHEETS

Recording Sheet 17a
(Use in Activity T06)

Modifying Materials

Original Task	Modification

Recording Sheet 18a
(Use in Activity 10c)

Modifying Materials

Original Presentation	Learner Characteristics	Modifications of original presentation so it matches learner characteristics

Facilitator Notes for Implementing Informal Diagnosis and Prescriptive Programming Skills

This is a new module. It was not presented in the original informal diagnosis and prescriptive programming workshop.

The participants are nearing the end of the second phase of a series of three workshops. They have learned, practiced, and reviewed informal diagnosis and prescriptive programming skills. They should now begin thinking of ways to present these skills to other educational personnel, especially teachers in the schools.

This module provides a beginning to this process. In it, participants are asked to select a procedure that they would like a teacher to use. They must plan a meeting in which they try to convince the teacher to implement this procedure. Then, they are given the chance to role play this situation and evaluate its outcome.

Participants are asked to read the article, "A Model for Systematically Improving Instruction." The facilitator may give them additional articles about consultation to read. One frequently used is an adaptation of the article, "Praise Reappraised," by Richard E. Farson. It is in the Harvard Business Review, Volume 41, Number 3, 1963.

Objective of the Module

The participants will plan a meeting with a teacher to discuss implementing a selected procedure, role play this meeting, and discuss what occurred during it, according to the criteria outlined on Worksheets 21 and 22.

Materials Needed for the Module

Facilitator Materials

- blank transparencies
- 1 transparency divided into two columns
- overhead projector
- marking pens

Participant Materials

- 1 Activity Sheet 11a per participant
- 1 article, "A Model for Systematically Improving Instruction," per participant
- 1 Activity Sheet 11b per participant
- 1 copy of Worksheet 19 per participant
- 1 copy of Worksheet 20 per participant

...continued next page

1 copy of Worksheet 21 per participant

1 copy of Worksheet 22 per participant

Time Needed to Complete the Module

Approximately two hours will be needed to complete the module.

Activity Notes for Implementing
Informal Diagnosis and Prescriptive Programming Skills

1. You are now almost at the end of the second phase of this series of workshops. You have learned the skills presented in the informal diagnosis and prescriptive programming workshop. You have practiced these skills in your jobs and you have spent two days reviewing these skills.

2. Now you can be thinking of how you can begin teaching these skills to others. One way of doing this is through consultation sessions with one or several teacher(s).

3. Please take about ten minutes to read this article that describes some elements to consider when planning and implementing a consultation session.

(DISTRIBUTE COPIES OF "A MODEL FOR SYSTEMATICALLY IMPROVING INSTRUCTION." AFTER TEN MINUTES, CALL THE GROUP BACK TOGETHER.)

4. Any questions or comments about this article?

5. It illustrates several elements to consider when conducting a consultation. In order for the consultation to be effective, we think the consultant needs to plan for it just as she helps teachers plan programs for children.

(WRITE THE FOLLOWING AS A CONTINUUM ON A TRANSPARENCY.)

6. The consultant can follow the same continuum of defining the problem, diagnosing it, designing a plan to alleviate the problem, and implementing and evaluating the plan.

7. In this module, you are asked to select a procedure that you like a specific teacher to use. This could be the teacher of the child that you have been working on during this workshop.

8. You will plan a meeting with this teacher to try to convince her to implement this procedure.

9. In planning this meeting, try to follow the continuum. Some parts of the continuum, such as diagnosis, will be hard to incorporate into your planning because you won't have access to the information here. Also try to use the principles mentioned in the article during your consultation session.

10. After planning the consultation, you will have an opportunity to role play this meeting and evaluate the results.

11. Any questions or comments?

(DISTRIBUTE ACTIVITY SHEET 11a AND WORKSHEETS 19 AND 20. GIVE THE PARTICIPANTS ABOUT TWENTY MINUTES TO COMPLETE THE WORKSHEETS.)

Activity Sheet 11a

1. Think of the child that you have been working on during this workshop.

2. Select one procedure you would like his regular classroom teacher to implement.

3. Plan a meeting with her, in which you will try to convince her to implement this procedure, by completing Worksheet 19.

4. Also complete Worksheet 20.

12. You will have about twenty minutes to complete these.

(AFTER TWENTY MINUTES, DISTRIBUTE COPIES OF ACTIVITY SHEET 11b AND WORKSHEETS 21 AND 22.)

Activity Sheet 11b

1. Choose a partner. Decide who will role play the teacher and who will be the consultant.
2. The first person playing the consultant should give the teacher Worksheet 20 to read.
3. Role play your consultation session.
4. After the role play, complete either Worksheet 21 or 22 individually.
5. After both you and your partner have completed Worksheets 21 and 22, discuss them.
6. Change roles and repeat the role play and discussion.
7. Join the large group for discussion.

13. Take a few minutes to read the notes about the teacher's role. Then take ten minutes to do the first role play. Really try to make this consultation as life-like as possible. I will tell you when it is time to stop your role playing and to start completing Worksheets 21 and 22.

(AFTER TEN MINUTES, TELL THE PARTICIPANTS TO STOP ROLE PLAYING AND TO TAKE ABOUT FIVE MINUTES TO COMPLETE WORKSHEETS 21 AND 22.)

14. Take about five minutes to complete Worksheets 21 and 22. Then take ten minutes to discuss them.

(AFTER FIFTEEN MINUTES, TELL THE GROUP TO SWITCH ROLES AND DO ANOTHER TEN MINUTE ROLE PLAY.)

15. Stop role playing and take five minutes to complete Worksheets 21 and 22 and ten minutes to discuss them.

(AFTER FIFTEEN MINUTES, ASK THE PARTICIPANTS TO FORM A LARGE GROUP. PUT A BLANK TRANSPARENCY ON THE OVERHEAD AND RECORD RESPONSES TO THE FOLLOWING QUESTIONS.)

16. What are some important points to keep in mind when consulting with a teacher?

17. Was it helpful to plan your consultation?

18. Were you able to apply some of the principles from the articles? What effect did they have on the session?

(PUT A TRANSPARENCY ON THE OVERHEAD THAT IS DIVIDED INTO TWO COLUMNS.)

19. What are some problems you can encounter when consulting with a teacher?

(RECORD THESE RESPONSES IN THE LEFT COLUMN.)

20. What are some solutions to these problems?

(RECORD THESE RESPONSES IN THE RIGHT COLUMN.)

ACTIVITY SHEETS

Activity Sheet 11a

Implementing Informal Diagnosis and Prescriptive Programming Skills

1. Think of the child that you have been working on during this workshop.
2. Select one procedure you would like his regular classroom teacher to implement.
3. Plan a meeting with her, in which you will try to convince her to implement this procedure, by completing Worksheet 19.
4. Also complete Worksheet 20.

Implementing Informal Diagnosis and Prescriptive Programming Skills

1. Choose a partner. Decide who will role play the teacher and who will be the consultant.
2. The first person playing the consultant should give the teacher Worksheet 20 to read.
3. Role play your consultation session.
4. After the role play, complete either Worksheet 21 or 22 individually.
5. After both you and your partner have completed Worksheets 21 and 22, discuss them.
6. Change roles and repeat the role play and discussion.
7. Join the large group for discussion.

WORKSHEETS

Worksheet 19
(Use in Activity 11a)

Implementing Informal Diagnosis and Prescriptive Programming Skills: Planning Your Consultation

1. What is the problem you will be discussing during this consultation session?

2. What is your objective for this consultation session?

3. Task analyze the objective to determine all the steps involved in it.

4. How will you accomplish these tasks in order to meet your objective?

Implementing Informal Diagnosis and Prescriptive Programming Skills: Teacher Information

Complete the following so the person role playing the teacher will know how he/she should act. Please do not make any comments that specifically identify the teacher, (i.e. her real name, etc.)

1. Is the teacher's reaction favorable toward the child she referred?

2. Is the teacher's reaction favorable toward the consultant?

3. Is this the first time the teacher has referred a child to the consultant?

4. How many times have the teacher and consultant met previously to discuss this child?

5. What were the outcomes of those meetings?

6. Briefly describe the teacher's "educational philosophy."

7. What other information does the person role playing the teacher need to know?

Worksheet 21
(Use in Activity 11a)

Implementing Informal Diagnosis and Prescriptive Programming Skills: Teacher's Feedback Worksheet

1. What was the problem the consultant was discussing with you?

2. What was the consultant's objective for this session? State it as specifically as possible.

3. What did the consultant do that made his objective clear? State specific words and behaviors, if possible.

3. What did the consultant do that made you want to do what he said or made you not want to do what he said? State specific words and behaviors if possible.

4. Were you able to reach a conclusion? Why or why not? (If you answer that you weren't able to because of lack of time, what do think would have happened if you had had more time?)

Worksheet 22
(Use in Activity 11a)

Implementing Informal Diagnosis and Prescriptive Programming Skills: Consultant's Feedback Sheet

1. If you were to repeat this consultation, what, if anything, would you do differently?

2. What did you do to make your objective clear? State specific words and behaviors, if possible.

3. What did you do to try to convince the teacher to accept your suggestions? State specific words and behaviors if possible.

Do you think you may have done anything that made the teacher not want to accept your suggestion? State specific words and behaviors if possible.

4. Were you able to reach a conclusion? Why or why not? (If you answer that you weren't able to because of lack of time, what do you think would have happened if you had had more time?)

ARTICLES

Implementing Informal Diagnosis and
Prescriptive Programming Skills

A MODEL FOR SYSTEMATICALLY IMPROVING INSTRUCTION*

One way to describe the process of improving classroom teaching performance is in terms of the relationship between the person being helped and the helper. In this context improving instruction is essentially a "helping process" and can be based on fundamental principles of consultation. The principles involved apply equally well between a teacher and a pupil, a principal and a teacher or between a supervisor and a supervisee. Seven principles which relate to this helping process and constitute a model for systematically improving instruction are described below.

First, the helper and the learner must develop a shared understanding which combines how each sees the situation. This means establishing a different kind of relationship than is often done. The usual way of conceiving of the relationship between supervisor and supervisee, principal and teacher, or helper and learner, is that the helper tries to change the learner. Instead, this principle suggests both parties should take joint action to solve the problem. In other words, they become partners conducting an inquiry into a problem which the learner wishes to solve. It's a special kind of problem and the solution requires increased competence on the part of the learner. It's not a matter of the helper solving the problem for the learner, but rather the learner solving his own problem with the assistance of the helper. If the learner solves the problem, he has gained increased competence with which to meet new problems. This requires a joint sharing of the views about the nature of the problem and the steps to be taken in reaching a solution.

The assumption underlying this principle is that two people will more likely engage in the same course of action (reach the same decision), if they have the same objectives or opinions concerning the situation, classroom, lesson and pupils. If they have the same opinions and objectives, they would probably agree on the action. They would more likely have the same opinions if they had the same facts. This assumption is illustrated on page 11, by the diagram on Development of Shared Understanding.

A difference between the actions taken by the learner and what the helper would have done should be approached by creating a shared understanding of their meaning. There must be a shared understanding of what each thought should be accomplished, the predictions each was making, the explanations each made about the current situation and the facts involved. Shared understanding results when each person indicates his objectives, opinions and facts available at the particular time.

---

*Adapted in part from lectures by:

John L. Wallen at the Clinical Supervision Institute, Portland State University, Portland, Oregon, 1965.

Morris Cogan at the University of Pittsburgh, Summer Session, 1964.

Shared understanding between two people is limited by the amount of firsthand experience they have in common. It is one thing to be told something; it is another thing to experience it. To the extent that two people can experience the same situation, they communicate better.

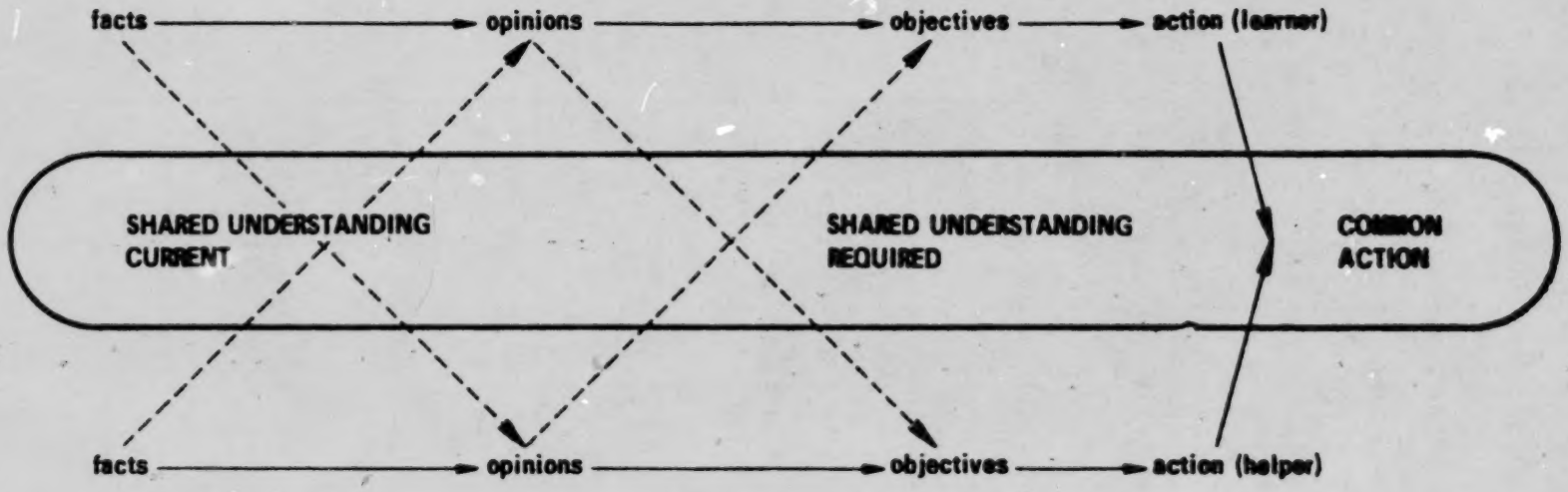
Second, shared understanding requires full information be exchanged. But full information will be exchanged only in a trusting relationship. Therefore, unless the learner feels safe and free to be himself, to talk about his inadequacies, the behaviors he wants to change or his weaknesses, there isn't going to be a full sharing of information. Thus, there will not be a shared understanding. A helper should remember his actions will be viewed in terms of his relationship with the learner. The first task, then, is to establish the trusting relationship which was defined and described earlier.

The third principle is that the learner must be attempting to achieve his goals not the helper's. It could be said that the learner is always attempting to achieve his goals. If, however, the learner is working to achieve goals set for him by the helper, his true goals are to please the helper, to avoid disapproval. In short, the learning process becomes one of learning how to get along with the helper, not of learning how to solve problems with increased competencies. Therefore, it is important to start from the basis that a person is always going to be working to solve his own problems, to achieve his own goals. The helper's task is to find out what the learner's goals are, and if they can be influenced in a more helpful direction. This principle implies the learner should help decide the standards of effective performance in advance. His reward will come from accomplishment, rather than general praise from an external source. In short, he's attempting to meet his own goals, and because he has helped arrive at the criteria as to how they are met, the resulting behavior can be internalized.

Fourth, there will be no learning unless the learner makes a provisional try. That is, he must expose his behavior. He must do something. He must take a risk. He must provide firsthand data for inquiry into the problem he is attempting to solve. For example, if a student teacher needs to develop skill in lesson planning, he begins by writing lesson plans. If a teacher wants to learn how to ask certain kinds of questions, he begins by formulating and verbalizing the questions in a simulated or real situation. Contrary to this approach is a teacher asking for demonstration lessons from a supervisor so he can learn how to perform certain functions. Demonstrations can be useful as a means of showing a technique, but if a teacher wants to change his own behavior, he will have to try something himself to see the results. In short, he must make a provisional try.

Fifth, after the learner has made a provisional try, he must receive information about what he did. He must receive information about his actual behavior, about performance. The helper does not provide him information about his personality; nor attempt to discuss his attitude.

DEVELOPMENT OF SHARED UNDERSTANDING



One doesn't say, "You're going to need more of a sense of humor. Develop a sense a humor." The supervisor does not say, "Be more dynamic and interesting. Every teacher has a little ham in him. What you have to do is ham it up." Instead, the supervisor provides feedback by talking about the teacher's actions and how his lack of dynamics can be compensated for by employing teaching techniques which do not require it. Information about his actions may be gathered by taking a verbatim transcript of the lesson, by using a tape recording or videotape, but in any case, it is a record of his actions. The goal is that the teacher be able to see his performance as others do instead of through the filter of what he intended to accomplish.

Sixth, in addition to performance data, the learner must receive data on the results of his performance, about its effect. Performance data tells the learner what he did; effect data tells him what effect it produced. The helper encourages the learner to steer his behavior by the consequences he produces. The learner should help decide himself what kinds of information he wants to guide his improvement. Whatever it is, he needs to know not only what he did but its effect. For example, it may be a teacher's intent in the classroom to develop independent, noncompliant learner behavior. If, however, the teacher continually justifies his behavior, makes reference to himself, serves as the only source of rewards for pupils and in general behaves contrary to his intentions, the effect more likely will be to produce dependent or counterdependent learners.

The final principle is the principle of successive approximation. The principle of successive approximation means a person does not try to accomplish the entire change of performance at one time or in one step. Rather, one finds the logic in the performance indicating the order in which the desired changes are to be accomplished. The supervisor and supervisee, helper and learner, rank the desired changes in relation to the objectives and jointly decide what should be accomplished first, second, third and so on. For example, the change a teacher desires may be to improve his manner of verbally influencing pupils to participate and interact in class. That is, to be more indirect than direct. Assume for illustrative purposes that direct verbal influence includes teaching strategies that are predominantly lecturing, giving information and directions, criticizing pupils and justifying authority. To bring about change the goal would be to identify and prioritize other teaching strategies which could be substituted for present strategies and would indirectly influence more pupils to participate. These indirect teaching strategies might include accepting pupils' feelings, reinforcing pupil responses, building on pupil ideas and asking questions. Instead of working on all of these indirect strategies simultaneously, the teacher would select one specific strategy and determine the steps to be taken or teaching behaviors to be developed so he can perform the strategy appropriately.

A Model for Systematically Improving Instruction

The principle of successive approximation means identifying and describing specifically the desired terminal behavior and then ordering the steps to be taken in accomplishing the desired change.

These seven principles of consultation constitute a psychological rationale upon which the improvement of instruction can be built.

A MODEL FOR SYSTEMATICALLY IMPROVING INSTRUCTION

Trainee Content Outline

Principles of the helping process:

1. The helper and the learner develop a shared understanding.

2. The helper and learner exchange full information.

3. The learner attempts to achieve his own goals.

4. The learner makes a provisional try.

5. The learner, after making a provisional try, needs data on what he actually did.

6. The learner also needs data on the effect of his performance.

7. The learner accomplishes changes in performance one step at a time (successive approximation).

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Facilitator Notes for Final Summary

This is a summary of Informal Diagnosis & Prescriptive Programming: A Follow-Up Workshop.

Materials Needed for the Summary

Facilitator Materials

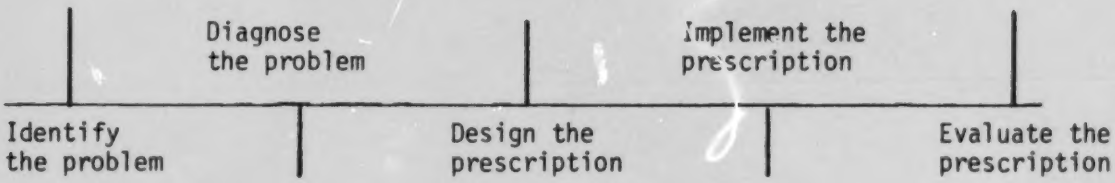
- overhead projector
- blank transparencies
- marking pens
- 1 transparency of Continuum of Services
- Worksheets 1, 2, 3

Time Needed to Complete the Summary

Approximately 15 minutes will be needed to complete this summary.

Activity Notes for the Final Summary

(PUT THE CONTINUUM TRANSPARENCY ON THE OVERHEAD.)



1. This continuum is basically a referral process.

2. The child is identified by his teacher as having some kind of a problem. Your role, as a resource teacher or consultant, is to define that problem and decide what types of information you still need to design a prescriptive program for this child.

3. To assist you in doing this, we looked at this format.

(PUT THE TRANSPARENCY OF WORKSHEET 1 ON THE OVERHEAD.)

4. We asked ourselves these questions to help us pinpoint Sally's problem and to help identify the other types of information we needed to eventually plan a program for her.

(PUT THE TRANSPARENCIES OF WORKSHEETS 2 & 3 ON THE OVERHEAD.)

5. We did identify some types of diagnostic information we wanted to gather about Sally.

6. We used the Task Analysis process to gather some of this data.

7. Task Analysis is isolating, describing and sequencing subtasks.

8. Task Analysis is used as a diagnostic technique by developing informal tests for each subtask the child must do to complete the objective.

9. The subtasks the child can't do are those you teach him.

10. In Task Analysis, we looked at the skill requirements of the objective. In Error Pattern Analysis, the second diagnostic technique we examined, we looked at examples of the child's work.

11. The seven steps of Error Pattern Analysis are:

    a. find and mark errors,
    b. fill in correct response,
    c. eliminate possible sources of error,
    d. describe errors,
    e. write a tentative conclusion,
    f. confirm the conclusion,
    g. write a diagnostic hypothesis.

12. We concerned ourselves with the first five steps. We looked at worksheets and tests and tried to find the pattern of errors. We tried not to make inferences but only to write down the things we could observe on the worksheet or test. We didn't want to put down things like "may have a memory problem" but observable statements like "can't do problems with zero in the multiplier."

13. Next, we talked about systematic inquiry as a method for gathering information about a child's learning style. To do systematic inquiry, which is a process of modifying subtasks, we have to do a task analysis.

14. We modify each task the child cannot do to assess the amount and kind of assistance the child needs to do the task. We talked about lateral and downward modifications. Examples of downward modifications were altering the type of response the child made, making the task more concrete, and so forth.

15. There are two rules of Systematic Inquiry.

    a. The first rule is to make as minor an alteration in the task as possible. The restructured task should be as similar to the original task as possible. This ensures that the original skill is still being assessed.
    b. The second rule is to try to make only one alteration in a task at a time. Sometimes, we found it necessary to make more than one alteration at a time. However, whenever we can follow this rule it helps us pinpoint the best method to teach a child.

16. We usually make inquiries in a specific order.

    a. The first inquiry we usually make is to change the task so it calls for an alternative response.
    b. If the child still can't do the task after we've asked him to respond in a different way, then we:

        1) check his ability to do each subtask, and
        2) modify each subtask he cannot do.

17. This completed our section on identifying and diagnosing the problem.

18. Next, we did an activity with Sally and decided, based on the error pattern of the tests and worksheets she had completed, what skills she could and could not do. We also decided what areas we wanted still more information on and made some statements about Sally's learning style.

19. Then we discussed how to establish priorities. We had a big list of what Sally couldn't do and we couldn't go in and teach everything at once.

20. Setting priorities is really a subjective activity. The following are some things we mentioned earlier that might influence the determination of priorities:

    a. teacher's request,
    b. child's request,
    c. parent's request,
    d. what the school system says the child is supposed to learn next, and so forth.

21. We then were ready to start developing a prescriptive program for the child. We had our diagnostic information and our priorities which were based on the diagnostic information.

22. We wrote behavioral objectives that were based on the priorities. We talked about long and short range objectives. We said an objective contains three things - a statement of behavior, conditions under which the behavior will occur, and criteria.

23. Next, in prescriptive programming, we looked at the methods we could use to reach our objectives. We defined a method as how to teach. Examples of some methods are multisensory approach, one-to-one and peer teaching, generalization, the programmed approach and so forth.

24. When we discussed task analysis as a remedial technique, we looked at a task analysis of an objective.

    a. We found what subtasks the child could and couldn't do.
    b. This told us where to begin our remediation. It gave us a lesson plan. We knew after teaching a child one subtask that we would move on to the next one in the list of tasks.

25. Next we looked at directive teaching as a method and applied that to writing learning sequences. Learning sequences can form the basis of a prescriptive program for a child.

    a. They are uncluttered "scripts" that can be used to teach a fact or concept.
    b. You can use the same basic script to teach several concepts. For example, when you write one to teach the sound "f" makes, you can generalize that and use it for other letter sounds.

26. We also looked at ways to make presentations less ambiguous. In doing this we:

    a. stress the important characteristics of the concept we're teaching,
    b. include the characteristics that really separate it from other like instances,
    c. vary the unimportant characteristics,
    d. present not-instances, and
    e. include fade-out procedures.

27. After we completed the learning methods module, we had:

    a. defined a child's problem,
    b. gathered diagnostic information about that problem which helped us identify skills the child could and could not do,
    c. selected certain priorities and wrote behavioral objectives for them,
    d. chose methods to meet those objectives.

28. We were then ready for the next step. We talked about materials we would use to compliment the methods we had chosen to meet the objectives.

29. We applied task analysis to the materials and then used a form to evaluate them.

    a. We stressed that the materials we selected must have characteristics that were compatible with the child's learning characteristics.
    b. We also stressed that the materials selected must match our objectives and the methods we had chosen to reach those objectives. This would eliminate selecting materials only because they were "cute or cheap" or whatever.

30. We also looked at some ways to modify materials. We could:

    a. modify using principles of systematic inquiry,
    b. modify by:

        1. stressing important characteristics
        2. varying unimportant characteristics
        3. presenting non-instances

    c. Modify by incorporating more learning principles into the material's presentation.

31. We also spent a little time looking at ways to present these procedures to other teachers.

APPENDIX

Explanation of Materials Included in the Appendix

A test, answer key, example of a post-workshop assignment and an evaluation form are included in the Appendix. All of these evaluation procedures are optional. An example of a memo that should be sent to the workshop participants three weeks prior to the workshop is also part of the Appendix.

The test contains questions for all the modules except Implementing Informal Diagnosis and Prescriptive Programming Skills. It is the same test that is given as a pre- and post-test for Informal Diagnosis and Prescriptive Programming: A Workshop. It is recommended that the facilitator use the post-test results from Informal Diagnosis and Prescriptive Programming: A Workshop as the pre-test results for this workshop. Then, at the end of this workshop, the test should be given again. The results of these two tests can then be compared to assess the progress made by the participants.

Although the pre- and post-tests have been given, analyzed and improved, further analysis is required to determine their reliability and validity. Therefore, the facilitator may wish to use other evaluation procedures in addition to, or in place of, the test.

The post-workshop assignment provides such an option. It should be given to the participants at the end of Informal Diagnosis and Prescriptive Programming: A Follow-Up Workshop. It should be completed by the participants and returned to the facilitator who should then check it and give feedback to the participants about it. If the participants are going to attend the Workshop for Training In-Service Facilitators, they should return the assignment before attending that workshop in time for the facilitator to review it before that workshop begins.

Although this assignment is optional, it is highly recommended because it reinforces the skills presented in the two informal diagnosis and prescriptive programming workshops. It provides an opportunity for participants to implement the entire informal diagnosis and prescriptive programming process in their home settings. Completing the assignment correctly could be one of the criteria for asking certain participants to attend the Workshop for Training In-Service Facilitators.

The facilitator should provide the participants with a copy of the Final Assignment for the Follow-Up Workshop and copies of all the forms the participants need to complete the assignment. The forms required for the assignment are:

1. Worksheets 1, 2, 3, 12, 13, 14, 16, 19, 20, 21, and 22.
2. Recording Sheets 5a, 6a, 7a, 9a, 10a, 11a, 15a, 17a and 18a.

Rather than assessing the progress of the participants, the form entitled Evaluation Form provides the facilitator with information that will assist him in evaluating his own presentation and in deciding if the module needs to be modified. The facilitator may distribute this form at the end of every module or only at the end of those on which he wants that kind of information. He may also use it at the end of the workshop to evaluate the whole workshop.

The memo to send to the participants at least three weeks prior to the follow-up workshop reminds them of the workshop and asks them to bring certain items to it.

Definition Page for the Informal Diagnosis and Prescriptive Programming Pre- and Post Test

Task Analysis is a process of breaking an objective into the small subtasks needed to complete it.

Error Pattern Analysis is a technique for gathering information about the errors a child makes. When using EPA, the teacher examines the responses made by a child and writes a statement(s) in behavioral terms about the errors he has made.

Systematic Inquiry is a process of restructuring subtasks in order to assess the amount and kind of assistance the child needs in order to do the subtask. If a child can't complete a certain subtask, the teacher can modify it so the child can complete it correctly.

Informal Diagnosis and Prescriptive Programming
Pre- and Post Test

1. Procedure(s) that do not require information about a child.

   a. Task Analysis
   b. Error Pattern Analysis
   c. Prescriptive Programming
   d. a and c

2. Procedure(s) that could be useful as a diagnostic tool.

   a. Task Analysis
   b. Error Pattern Analysis
   c. Prescriptive Programming
   d. a and b

3. Which of the following is true?

   a. Task Analysis is a standardized diagnostic procedure that yields valid diagnostic information.
   b. Error Pattern Analysis is a standardized diagnostic procedure that yields valid diagnostic information.
   c. Error Pattern Analysis tries to control for all possible sources of error.
   d. Task Analysis and Error Pattern Analysis are informal diagnostic procedures which do not guarantee validity.

4 points 4. List four principles to consider when evaluating a material to see if its characteristics match a child's learning characteristics.

5. Reason(s) for using Error Pattern Analysis is:

   a. to become more familiar with a child's strengths and weaknesses
   b. to ascertain points at which consistent errors are made
   c. to try to isolate skills needing remediation
   d. all of the above

6. What are the <u>first</u> two things to do when a child is referred to you?

   a. Define the problem and begin formal diagnostic testing.
   b. Define the problem and begin informal diagnostic testing.
   c. Define the problem and identify what other kinds of information you need.
   d. Define the problem and write behavioral objectives.

7. When applying the process of systematic inquiry, the two rules to follow are:

   a. Make major alterations in the main subtasks but change as few subtasks as possible.
   b. When modifying a task, make the alteration as minor as possible and make only one alteration in a task at a time.
   c. Do an Error Pattern Analysis of the task and then make major alterations in the main subtasks.
   d. Make at least two changes in every task and make the alterations after doing a task analysis of the objective.

8. Which of the following is <u>not</u> one of the potential uses of Task Analysis as described by Barbara Bateman?

   a. Grouping learners
   b. Readiness of learners
   c. Reinforcement of learners
   d. Motivation of learners

A child was given the following problem as part of a math worksheet.

$\square = 5 + 4$

9. Which of the following would <u>not</u> appear in a Task Analysis of this problem?

   a. Can match symbols and quantities
   b. Can match symbols and operation
   c. Can remember the visual symbol of "9"
   d. Can write the numeral "9"

10. Which of the following would <u>not</u> appear in a Task Analysis of this problem?

    a. Can match symbols and operations
    b. Can partial count (Start counting at 5 and stop at 9)
    c. Can count forward by 1's to 9
    d. Can say "9"

11. Which of the following would <u>not</u> appear in a Task Analysis of this problem?

    a. Can attend to the task
    b. Can associate symbols and quantities
    c. Can locate the problem
    d. Can count forward by 1's

12. Which of the following would <u>not</u> appear in a Task Analysis of this problem?

    a. Can understand the directions
    b. Can count forward by 1's
    c. Can write the numeral "9"
    d. Can attend to the problem long enough to solve it

13. Error Pattern Analysis should be used

    a. while you are alone with the child
    b. for standardizing instructional strategies
    c. along with several other diagnostic techniques
    d. all of the above

3 points 14. List <u>three</u> categories of information you <u>may</u> need to gather in order to develop a prescriptive program for a child.

15. A child is asked to spell orally the word "house". He does so incorrectly. Which is the first modification (systematic inquiry) of that task you would make?

    a. Give the child an incomplete sentence to read. Structure it so the word required to complete it is "house". Ask the child to read the sentence and complete it by writing in the missing word.
    b. Ask the child to write the word "house" instead of spelling it orally.
    c. Show the child a picture of a house and ask him to orally spell the word that correctly names the picture.
    d. Give the child a sentence with "house" in it and ask him to point to the word "house".

3 points 16. Write a behavioral objective. Include in it three components.

17. Task Analysis directs one's attention primarily to

    a. the child
    b. the objective
    c. the teacher
    d. the environment

18. Which of the following is not a step in Error Pattern Analysis?

    a. Identify the errors
    b. Describe the errors
    c. Task analyze the errors
    d. Write a tentative conclusion

~ ~ nts 19. List <u>three</u> learning principles.

EXAMINE MULTIPLICATION WORKSHEET I.

20. The following are <u>possible</u> sources of error. Which one can be ruled out as a source of error on Multiplication Worksheet I?

a. Attending to the task
b. Understanding the language of directions
c. Hearing adequately
d. Writing numbers

2 points 21. Analyze Multiplication Worksheet I and write the major pattern of errors you find.

22. All steps in a Task Analysis should be stated in words that represent

a. observable behaviors
b. processes
c. relationships
d. skills

23. What must be considered when evaluating a child's learning characteristics?

a. What does he need to be taught?
b. Where does he need to start?
c. What is the best way to present information to him?
d. All of the above.

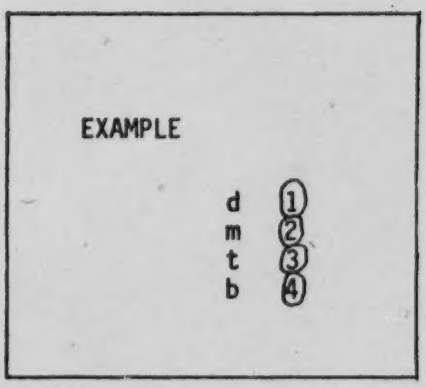
24. There are six questions to ask yourself when defining the child's problem. Which is <u>not</u> one?

a. Who is affected?
b. What skills are deficit?
c. What kinds of information are needed to program for the child?
d. Are there ways to meet this problem?

3 points 25. List three systematic inquiries (modifications) for the following task.

This is what the teacher says:

"Look at the example box...



I am going to read a <u>made-up</u> word to you. Listen carefully and decide which letter makes the beginning sound of the word. Ready? Tuv... <u>tuv</u>. Which letter makes the beginning sound? (Wait for a response). Good. The letter <u>t</u> does, so fill in the circle beside <u>t</u>. (Pause) Now we will begin the test. Listen carefully to the words I am going to read to you. Decide which letter makes the beginning sound of each word and fill in the circle beside your answer. Ready?

This is the Task Analysis of the above task:

a - attend to oral directions
b - demonstrate an understanding of concepts in directions ("beginning sounds")
c - locate correct item
d - repeat stimulus word
e - isolate beginning sound
f - match letter sound and letter symbol (sound-symbol correspondence)
g - select correct response by filling in the circle

Systematic Inquiries:

1.

2.

3.

26. Barbara Bateman mentions four essentials of "clean teaching." Which is not one?

    a. The teaching presentation relies a great deal on previously learned material.
    b. The teaching presentation is uncluttered.
    c. The teaching presentation is unambiguous.
    d. The teaching presentation is accurate.

27. What are the three components of behavioral objectives?

    a. Behavior modification, conditions, evaluation
    b. Behavior, conditions, criteria
    c. Counting behaviors, charting behaviors, evaluating
    d. Who, what, where

28. Which phrase(s) describes a concept synonymous with the phrase "how to?"

    a. Prescriptive Programming
    b. Behavioral Objectives
    c. Error Pattern Analysis
    d. a and c

29. When performing a Task Analysis, one must _____, _____, and _____ all necessary subtasks.

30. How do we find out what a child's learning characteristics are?

31. Which of the following is not a directive teaching procedure?

    a. Get the child's attention
    b. Focus on two concepts at a time
    c. Program the child so he's correct in nearly all his responses
    d. Give the child positive reinforcement

Multiplication Worksheet I

1. 247
x 25
1235
4940
(5175)

6175

2. 247
x 801
247
000
97400
(97647)

197847

3. 545
x 247
4815
1800
1090000
(1096615)

134615

4. 247
x 45
1245
9880
(100125)

11115

5. 247
x 42
494
9880
(10374)

10374

The correct answers are written beneath the problem.

Informal Diagnosis and Prescriptive Programming
Pre- and Post Test

1. Procedure(s) that do not require information about a child.

   (a.) Task Analysis
   b. Error Pattern Analysis
   c. Prescriptive Programming
   d. a and c

2. Procedure(s) that could be useful as a diagnostic tool.

   a. Task Analysis
   b. Error Pattern Analysis
   c. Prescriptive Programming
   (d.) a and b

3. Which of the following is true?

   a. Task Analysis is a standardized diagnostic procedure that yields valid diagnostic information.
   b. Error Pattern Analysis is a standardized diagnostic procedure that yields valid diagnostic information.
   c. Error Pattern Analysis tries to control for all possible sources of error.
   (d.) Task Analysis and Error Pattern Analysis are informal diagnostic procedures which do not guarantee validity.

4 points 4. List four principles to consider when evaluating a material to see if its characteristics match a child's learning characteristics.

   a. What sensory modalities are used?
   b. What child response is required?
   c. Is there variety in presentations of the tasks.
   d. Are the tasks sequenced correctly in the presentation?
   e. What is the instructional/interest level?
   f. Is reinforcement provided?
   g. Is practice provided?
   h. How many concepts are taught in a lesson?
   i. What is the format?

(OVER)

5. Reason(s) for using Error Pattern Analysis is:

   a. to become more familiar with a child's strengths and weaknesses
   b. to ascertain points at which consistent errors are made
   c. to try to isolate skills needing remediation
   (d.) all of the above

4. continued

j. How long is the lesson?
k. What kind of teacher-learner interaction is called for?
i. Other

(If other responses appear logical to you, accept them. If the questions "What does it teach?" "Where does it start?" "How does it make provisions for learning styles?" and "In what way does it present the information?" are listed, ask the participants to be more specific.)

6. What are the <u>first</u> two things to do when a child is referred to you?

   a. Define the problem and begin formal diagnostic testing.
   b. Define the problem and begin informal diagnostic testing.
   (c.) Define the problem and identify what other kinds of information you need.
   d. Define the problem and write behavioral objectives.

7. When applying the process of systematic inquiry, the two rules to follow are:

   a. Make major alterations in the main subtasks but change as few subtasks as possible.
   (b.) When modifying a task, make the alteration as minor as possible and make only one alteration in a task at a time.
   c. Do an Error Pattern Analysis of the task and then make major alterations in the main subtasks.
   d. Make at least two changes in every task and make the alterations after doing a task analysis of the objective.

8. Which of the following is <u>not</u> one of the potential uses of Task Analysis as described by Barbara Bateman?

   a. Grouping learners
   b. Readiness of learners
   (c.) Reinforcement of learners
   d. Motivation of learners

A child was given the following problem as part of a math worksheet.

$\square = 5 + 4$

9. Which of the following would <u>not</u> appear in a Task Analysis of this problem?

   a. Can match symbols and quantities
   b. Can match symbols and operation
   (c.) Can remember the visual symbol of "9"
   d. Can write the numeral "9"

10. Which of the following would not appear in a Task Analysis of this problem?

a. Can match symbols and operations
b. Can partial count (Start counting at 5 and stop at 9)
c. Can count forward by 1's to 9
(d) Can say "9"

11. Which of the following would not appear in a Task Analysis of this problem?

a. Can attend to the task
(b) Can associate symbols and quantities
c. Can locate the problem
d. Can count forward by 1's

12. Which of the following would not appear in a Task Analysis of this problem?

(a) Can understand the directions
b. Can count forward by 1's
c. Can write the numeral "9"
d. Can attend to the problem long enough to solve it

13. Error Pattern Analysis should be used

a. while you are alone with the child
b. for standardizing instructional strategies
(c) along with several other diagnostic techniques
d. all of the above

3 points 14. List three categories of information you may need to gather in order to develop a prescriptive program for a child.

a. Background information (family, previous educational experiences, etc.)
b. Intellectual information (at what level is the child functioning?)
c. Behavioral information (what can the child do? what can't he do?)
d. Other information (health, sensory, etc.)

15. A child is asked to spell orally the word "house". He does so incorrectly. Which is the first modification (systematic inquiry) of that task you would make?

a. Give the child an incomplete sentence to read. Structure it so the word required to complete it is "house". Ask the child to read the sentence and complete it by writing in the missing word.
(b.) Ask the child to write the word "house" instead of spelling it orally.
c. Show the child a picture of a house and ask him to orally spell the word that correctly names the picture.
d. Give the child a sentence with "house" in it and ask him to point to the word "house".

3 points 16. Write a behavioral objective. Include in it three components.

Any behavioral objective is acceptable as long as it contains a statement of behavior (who did what), some conditions (when, where, how, etc.) and criteria (how well must it be done?).

17. Task Analysis directs one's attention primarily to

a. the child
(b) the objective
c. the teacher
d. the environment

18. Which of the following is not a step in Error Pattern Analysis?

a. Identify the errors
b. Describe the errors
(c.) Task analyze the errors
d. Write a tentative conclusion

3 points 19. List three learning principles.

a. One-to-one student-teacher interaction
b. Auditory-visual approaches
c. Multisensory approaches
d. Positive reinforcement
e. Peer tutoring
f. Directive teaching

OVER

EXAMINE MULTIPLICATION WORKSHEET I.

20. The following are possible sources of error. Which one can be ruled out as a source of error on Multiplication Worksheet I?

a. Attending to the task
b. Understanding the language of directions
c. Hearing adequately
(d) Writing numbers

2 points 21. Analyze Multiplication Worksheet I and write the major pattern of errors you find.

Multiplication fact errors (8x7, 7x5).

Errors in carrying (the child seems to forget to add in the numbers she is carrying).

(If other responses appear logical to you, accept them. The key words are "major pattern.")

22. All steps in a Task Analysis should be stated in words that represent

(a) observable behaviors
b. processes
c. relationships
d. skills

23. What must be considered when evaluating a child's learning characteristics?

a. What does he need to be taught?
b. Where does he need to start?
c. What is the best way to present information to him?
(d) All of the above.

19. continued

g. Over-learning (practice)
h. Teaching only one concept at a time
i. Presenting uncluttered lessons
j. Presenting unambiguous lessons
k. Presenting lessons that don't rely a great deal on previously learned material, skills, etc
l. Presenting lessons that are accurate
m. Presenting lessons that are broken into steps small enough to fit the child's learning style
n. Present lessions that contain tasks that are sequentially ordered
o. Use signal words to gain a child's attention
p. Entry skills are specified
q. Provide for stimulus generalization
r. Correction procedures are incorporated
s. Modeling
t. Cueing
u. Prompting

(If other responses appear logical to you, accept them as long as they refer to a "how to teach" procedure.)

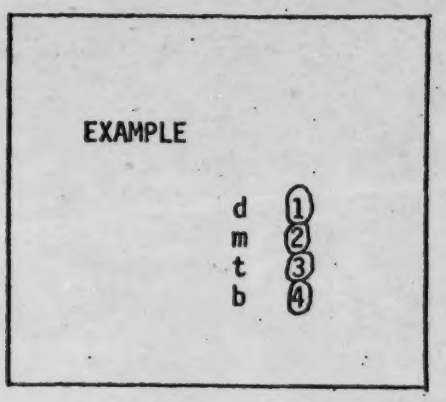
24. There are six questions to ask yourself when defining the child's problem. Which is not one?

a. Who is affected?
b. What skills are deficit?
(c) What kinds of information are needed to program for the child?
d. Are there ways to meet this problem?

3 points 25. List three systematic inquiries (modifications) for the following task.

This is what the teacher says:

"Look at the example box...



I am going to read a made-up word to you. Listen carefully and decide which letter makes the beginning sound of the word. Ready? Tuv... tuv. Which letter makes the beginning sound? (Wait for a response). Good. The letter t does, so fill in the circle beside t. (Pause) Now we will begin the test. Listen carefully to the words I am going to read to you. Decide which letter makes the beginning sound of each word and fill in the circle beside your answer. Ready?

This is the Task Analysis of the above task:

a - attend to oral directions
b - demonstrate an understanding of concepts in directions ("beginning sounds")
c - locate correct item
d - repeat stimulus word
e - isolate beginning sound
f - match letter sound and letter symbol (sound-symbol correspondence)
g - select correct response by filling in the circle

Systematic Inquiries:

1.

2.

3.

a. Ask the child to respond orally
b. Use cue words to gain the child's attention
c. Use a clicker to gain the child's attention
d. Change the language of directions
e. Write the directions instead of presenting them orally

f. Put a symbol by each box of responses so you can help the child locate the correct item by saying, "Put your finger on the _____."
g. Model the task
h. Teach the child how to isolate beginning sounds
i. Put a cue picture above the letters of the sounds the child does not know (apple above "ă")
j. Reduce the number of choices
k. Reduce the similarity of choices (do not have both "b" and "d" as possible choices)
l. Cut the page up and present only one row at a time
m. Use real instead of nonsense words
n. Make the responses larger

(Systematic inquiries for any of the subtasks are acceptable as long as they are a logical modification of the subtask. Be sure they are modifications and not checks.)

26. Barbara Bateman mentions four essentials of "clean teaching." Which is not one?

(a) The teaching presentation relies a great deal on previously learned material.
b. The teaching presentation is uncluttered.
c. The teaching presentation is unambiguous.
d. The teaching presentation is accurate.

27. What are the three components of behavioral objectives?

a. Behavior modification, conditions, evaluation.
(b) Behavior, conditions, criteria
c. Counting behaviors, charting behaviors, evaluating
d. Who, what, where

28. Which phrase(s) describes a concept synonymous with the phrase "how to?"

(a) Prescriptive Programming
b. Behavioral Objectives
c. Error Pattern Analysis
d. a and c

29. When performing a Task Analysis, one must isolate, describe, and sequence all necessary subtasks.

30. How do we find out what a child's learning characteristics are?

From applying formal and informal diagnostic procedures.

31. Which of the following is not a directive teaching procedure?

a. Get the child's attention
(b) Focus on two concepts at a time
c. Program the child so he's correct in nearly all his responses
d. Give the child positive reinforcement

Final Assignment for the Follow-Up Workshop

1. Select a child who is a different child from the one you worked with in the follow-up workshop.

2. Fill in the form for Defining the Problem and Identifying What Will Meet the Student's Need.

3. Task analyze two samples of the child's academic work in the area in which he is having difficulty.

4. Task analyze one subtest administered to the child in the area in which he is having difficulty.

5. Complete an error pattern analysis on the same two academic worksheets and one subtest that were task analyzed.

6. Complete a systematic inquiry of the same two academic worksheets and one subtest, including checks and inquiries for each task.

7. Fill in the form Discovering What the Child Can and Can't Do.

8. Write one long range behavioral objective and task analyze that.

9. Write one short range behavioral objective to help meet the long range objective and also task analyze that.

10. Write a learning sequence to teach this short range objective.

11. Task analyze one instructional material that you are considering for use with your child.

12. Fill out the form for Matching Learner Characteristics with Material Characteristics.

13. Modify that material for use with your child using either the principles for:

    a. systematic inquiry,
    b. learning principles, or
    c. concept teaching.

14. Present a new procedure to be used with a child to the classroom teacher. Fill out the planning and feedback sheets provided.

15. Please complete the assignment by _____ and send to the following address:
    (date)

    _____

    _____

    _____

Evaluation Form

ACTIVITY:_____ Was the objective of this activity: Met | Partially Met | Not Met

This area pertains to the information content of this activity.

Was this activity:	New	1	2	3	4	5
	Clear	1	2	3	4	5
	Relevant	1	2	3	4	5
	Important	1	2	3	4	5

This area is concerned with the overall presentation of the activity.

Did this activity: Involve Participants Adequately	1	2	3	4	5
Hold Interest	1	2	3	4	5
Use Suitable Techniques	1	2	3	4	5

This area pertains to your overall judgment of the instructor's performance on the following dimensions:

Organization	1	2	3	4	5
Relates Well to Participants	1	2	3	4	5
Skill in Involving Others	1	2	3	4	5

This area related to how you perceive the value of the ideas in the activity, i.e. you may have judged the content, format and teacher's performance to be rather dull, but still think the concept or idea important for inclusion.

Usefulness	1	2	3	4	5
Expectations Were Met	1	2	3	4	5
Satisfied a Need	1	2	3	4	5

Example of a Memo to be Sent to Workshop Participants

Dear :

The informal diagnosis and prescriptive programming follow-up workshop will be held _____ at _____.

Please bring the following to the workshop:

1. At least two academic worksheets that a child who has been referred to you has completed. These worksheets should be from the academic area in which the child is having problems (e.g. reading, math, etc.)

2. At least one subtest that was administered to the child who has been referred to you. This subtest should be in the academic area in which the child is having problems.

3. At least one instructional material that would be appropriate for this child.

4. Essentials of Teaching, by Barbara Bateman.

5. Notebook and paper.

See you soon!

ADDENDA

Criteria for Scoring the Final Assignment for the Follow-Up Workshop

The following are criteria for scoring the final assignment that is given to the participants at the end of the follow-up workshop. The criteria is an attempt to make the scoring objective, but the facilitator will still need to use his/her judgment as to the appropriateness and correctness of some of the responses. The point values assigned are rather arbitrary and may need to be modified as more assignments are corrected and more data is gathered.

In addition to assigning points, the facilitator should also write appropriate comments and corrections on the assignment pages.

The assignments should be scored and sent back to the participants as soon as possible.

1. Defining the Problem and Identifying What Will Meet the Student's Need. 4 points

   A. The participant will write:
      1. Who is affected. 1 point
      2. What the apparent skill deficit is. 1 point
      3. What needs to be done. 1 point
      4. What specific information is needed about the child. 1 point

2. Task Analysis. 9 points

   A. The participant will task analyze two worksheets and one subtest. In each task analysis, he will:
      1. Isolate the appropriate subtasks. 1 point each - total 3 points
      2. Describe them using observable terms. 1 point each - total 3 points
      3. Sequence them. 1 point each - total 3 points

3. Error Pattern Analysis. 6 points

   A. The participant will write tentative conclusions concerning the errors made by a child on the two worksheets and one subtest. He will:
      1. State an appropriate tentative conclusion for each. 1 point each - total 3 points
      2. State the conclusion using observable terms. 1 point each - total 3 points

4. Systematic Inquiry. 12 points

A. The participant will write a method for checking each subtask of the two worksheets and one subtest previously task analyzed. He will:
   1. Write a specific check for each subtask. (Not simply, "ask child.") 1 point each - total 3 points

B. The participant will write a systematic inquiry for each subtask of the two worksheets and one subtest previously task analyzed. He will:
   1. Write an alternate response. 1 point each - total 3 points
   2. Make only one alteration in a task at a time. 1 point each - total 3 points
   3. Make minor alterations in the task. 1 point each - total 3 points

5. Discovering What the Child Can and Can't Do. 4 points

A. The participant, using the worksheets and subtest completed by the child and other information he/she has concerning that child, will list:
   1. What skills the child can do, using observable terms. 1 point
   2. What skills the child can't do, using observable terms. 1 point
   3. What further information is needed. 1 point
   4. Notes on the child's learning style. 1 point

6. Behavioral Objectives. 6 points

A. The participant will write one long range and one short range objective, including in each:
   1. Behavior. 1 point each - total 2 points
   2. Conditions. 1 point each - total 2 points
   3. Criteria. 1 point each - total 2 points

7. Learning Methods. 5 points

A. The participant will write a learning sequence which includes:
   1. A behavioral objective. 1 point
   2. At least two learning principles or steps that
      a. stress the important characteristics of the concepts being taught,
      b. vary the unimportant characteristics,
      c. present not-instances,
      d. include fade-out procedures. 4 points

8. Task Analysis of Materials. 3 points

   A. The participant will write a task analysis for an instructional material, using the following criteria:
      1. Isolate the appropriate subtasks. 1 point
      2. Describe them using observable terms. 1 point
      3. Sequence them. 1 point

9. Matching Learner Characteristics with Material Characteristics. 2 points

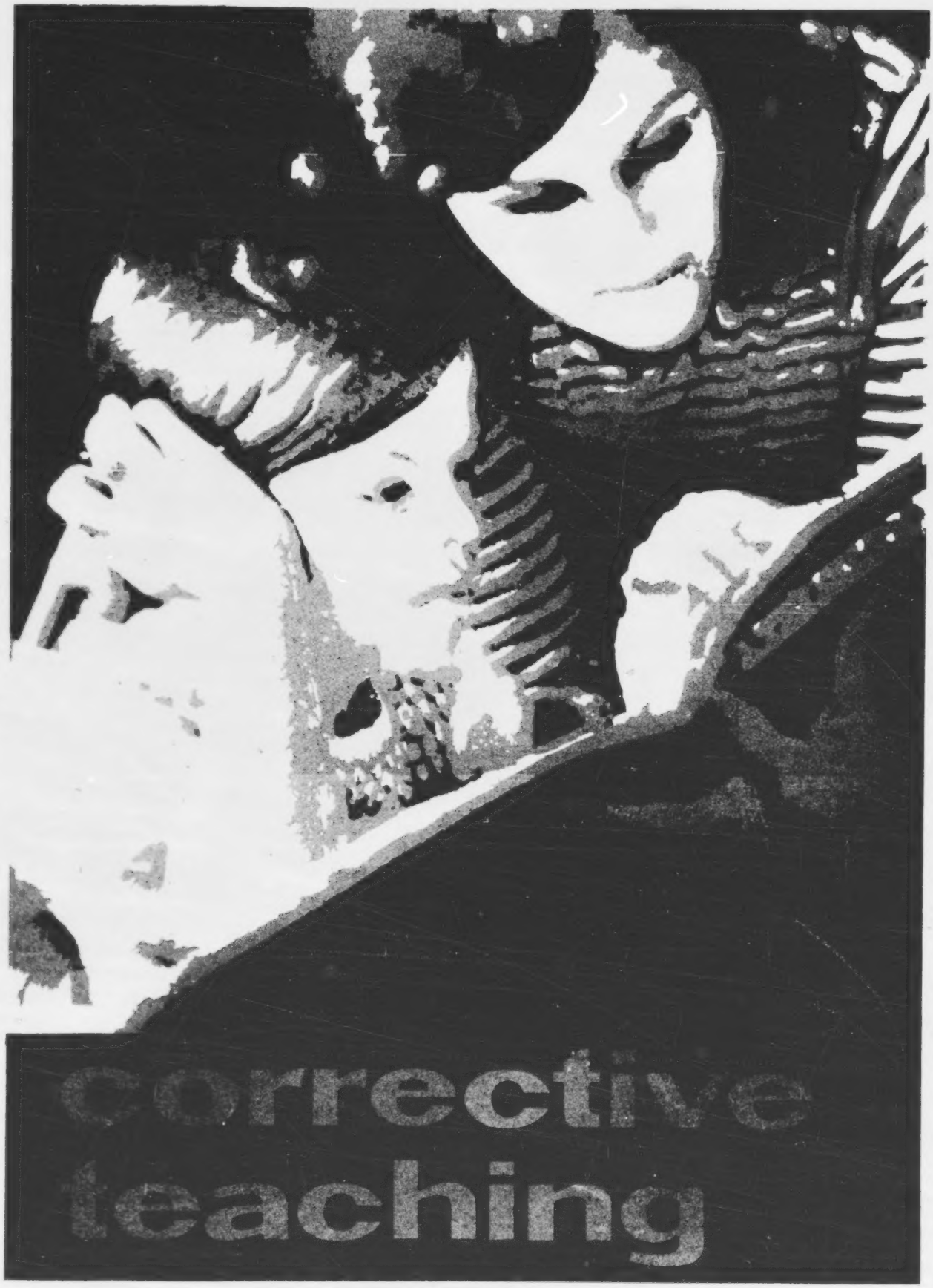
   A. The participant will complete the form "Matching Learner Characteristics with Material Characteristics" by:
      1. Writing characteristics of a child in the learner characteristics column, based on information from the form "Discovering What the Child Can and Cannot Do." 1 point
      2. Describing characteristics of a material based on the criteria listed on the form. 1 point

10. Modifying Materials. 3 points

   A. The participant will modify the instructional material that was previously evaluated by using either principles of:
      1. Systematic inquiry. If he uses this technique, he should:
         a. List an alternative response for the material. 1 point
         b. Make minor alterations in each task the child must do when using the material. 1 point
         c. Make only one alteration in a task at a time. 1 point
      2. Concept teaching. If he uses this technique, he should:
         a. Write statements telling how to stress the important characteristics of the material. 1 point
         b. Write statements telling how to vary unimportant characteristics. 1 point
         c. Write statements telling how to present not-instances. 1 point
      3. Incorporating learning principles. If he uses this technique, he should:
         a. Include at least three learning principles compatible with the child's learning style. 3 points

11. Implementing Informal Diagnosis and Prescriptive Programming Skills. 3 points

   A. The participant will plan, conduct, and evaluate a meeting with a classroom teacher. He will write:
      1. An objective. 1 point
      2. How this objective is to be met. 1 point
      3. A conclusion concerning the outcome of the meeting. 1 point


corrective
teaching

corrective teaching

A Guide for Teachers of the Handicapped

April 1973

by

JERRY A. CASTER

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1
Introduction

Entering into every classroom the first day of school each year are a group of children who are distinctive by their dissimilarity. Each pupil is unique in the total being presented to the teacher. Likes, dislikes, attitudes, social skills, previous experience and academic ability will vary greatly within every group. The importance of stressing the differences that the teacher must cope with is not that it is new information. It is a reality driven home too frequently for you who encounter children daily to overlook. The significance of differences for this publication is that it is the diversity of pupil performance that makes corrective teaching essential in the classroom.

First, let us examine some of the ways used to reduce the differences in the classroom. Administratively many different approaches have been used for the sole purpose of creating a performance range that can be dealt with *effectively* and *reasonably* by the teacher. Approaches include grouping children initially by chronological age, forming classes based on some variable such as achievement test scores, or the use of a content area design that groups across lines of chronological age according to skills. Even within the classroom, teachers attempt to reduce differences to a *workable range* by grouping pupils for instruction in such areas as reading and math. There are many scholarly works that describe the merits and limitations of methods of reducing differences for instructional purposes. The point being emphasized here is that reducing *significant* differences has been deemed necessary for the teacher to implement an effective educational program for her pupils.

In any discussion of the need to reduce significant instructional differences in the classroom, it is essential to look at the teacher as a major variable. Significant is a relative term linked to the teacher's range of ability in programming for differences *within* the classroom. Using graded programs as an example, we are aware of the master teacher who can program for a class that is labeled fourth grade but has pupils functioning from low second to high sixth grade in ability. For such a teacher there might not be any significant instructional differences among her pupils because she is able to effectively serve all of them. However, most teachers would readily admit that it would be difficult for them to serve pupils with such a spread of ability. *Significant instructional differences,* then, occur at the point where a pupil functions in a specific academic area outside the teacher's range of ability to program. For example, such a difference occurs for the teacher using three reading groups and having a pupil functioning below the lowest group. While the concept of significant instructional difference is relative to the teacher, it is also relative to specific content areas. A teacher capable of programming for a four year achievement spread in reading might be able to program for only a two year span of achievement in mathematics. Factors exist that are independent of teacher competence but that do affect range of programming. Such factors include variety of instructional materials, other pupils in the classroom and the way the school is organized instructionally. In many cases if it were not for time, materials or an unusually high average class performance, the teacher could effectively

develop a program for the pupil functioning outside the range of the classroom program. Everything considered, the significant instructional difference is relative to the total situation.

In effect what is being recognized is the uniqueness and individual differences present in teachers and classrooms. To recognize such differences does not in and of itself alter the situation for the child who functions outside of the range of programming provided in the classroom. In some cases, changing the administrative placement of the pupil from one teacher to another might be helpful. Unfortunately, the structure of the school environment does not always lend itself to such changes and our ability to determine the range that a teacher can effectively program for is limited at best. Also, a change of teachers might only be eliminating one content area problem for the pupil while creating another one.

Corrective teaching, as discussed in this publication, is an approach that the teacher confronted with a few pupils functioning outside the range of programming might consider. It is necessary to underscore *a few pupils* because if many pupils are in need of corrective teaching there is something obviously wrong with the structure of the current curriculum and instructional program. At this point it would be helpful to define corrective teaching.

> Corrective teaching is instruction designed to correct the classroom situation that causes the pupil to be outside the range of programming in a given content area. The situation is corrected by providing the pupil the skills required to function within the range of programming that exists.

In directing attention to the situation that is to be corrected by giving the pupil a higher skill level, a basic assumption is made--an assumption that we believe to be valid. That is, the teacher has organized her time, materials and the resources to the best of her ability so as to meaningfully incorporate every child into each content area. After doing this, the pupil who is left, the one for whom little value is to be realized from what the other pupils are doing, is in need of a corrective teaching program.

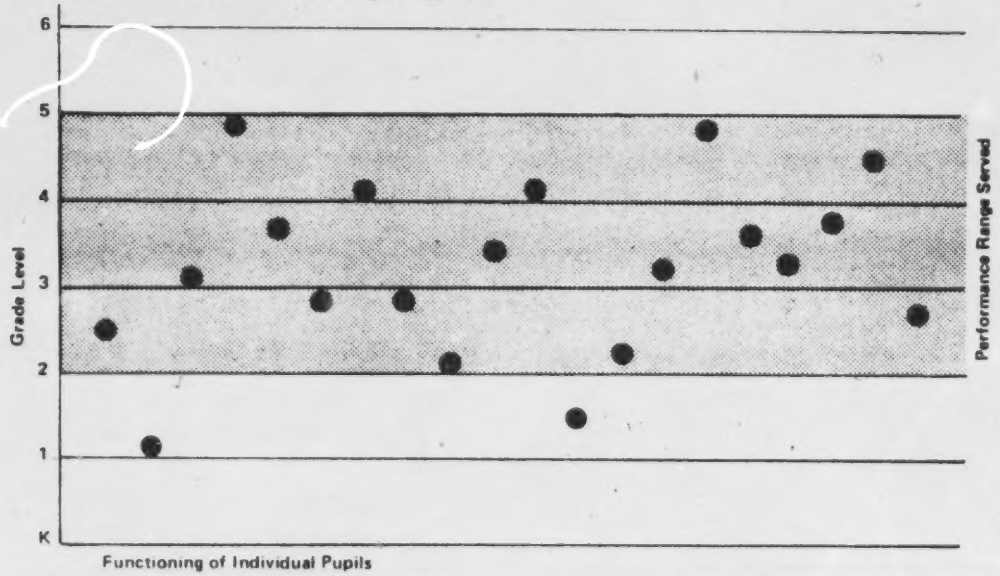


Figure 1 Range of Performance Served in a Third Grade Arithmetic Class

An example can be seen in the chart above. For explanatory purposes we will use a graded program again. In mathematics, the third grade teacher is able to serve children who function from second grade to the fourth grade with her current resources (time, materials, energy). Two pupils are yet to reach the second grade level. In such a case, the purpose of corrective teaching is to give the pupils the skills to function within the range of the teacher's effectiveness, in this case to design a program to increase math skills to the second grade level.

It might be said that pupils should not be in a classroom in which they can not function within the academic range of programming offered. When it is considered that the pupil may acceptably be functioning the remainder of time, the question more realistically becomes: *What other option, short of accepting the situation as unchangeable, does exist?*

An observation at this point might be that some pupils, within one year, two years or possibly never, will re-enter the range of programming offered in their classrooms. This will occur, but the suggestions regarding corrective teaching will be no less applicable. The outcome for the pupil is that the teacher following corrective teaching procedures will have implemented a goal directed learning program especially for him. The teacher will be individualizing instruction and providing a developmental program for the child, starting where he is and taking him as far as he can go.

The regular class teacher might have a greater number of pupils for whom re-entry would be possible than a resource or special class teacher. Resource and special class teachers may have such a heterogeneous population in terms of learning problems that group instruction of any size in basic skills would be unrealistic. Even though this may be true, the instructional approach within corrective teaching should have appeal to such teachers.

Considering only the resource teacher for a moment we can see the applicability of corrective teaching. The resource teacher has as a basic function the provision of skills that will enable the pupil to be an independent learner in the regular classroom. By isolating the skills the pupil will need to be integrated in the regular class at the point of re-entry, assessing current learner performance in those skills and developing an instructional plan to provide those skills, re-entry is more likely to occur. Unless re-entry skills are identified, there is danger that resource instruction might be moving the pupil closer to re-entry at an unnecessarily slow pace or not at all. Determining re-entry point would make it necessary for communication to exist between the regular teacher and the resource teacher which should produce additional benefits for the pupil.

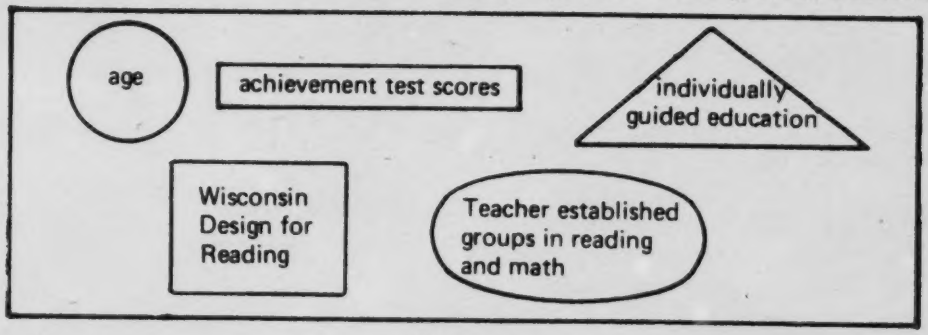
Special class teachers have been resource teachers for some pupils for many years. The many situations in which the teacher has actively worked to integrate selected pupils into other classes for reading, math, science or social studies because of their ability puts them at least in part in the resource category. In such situations, looking at re-entry performance rather than having to contend with inane discussions on the ability of the regular teacher to teach a *handicapped* child would be more productive for everyone.

Also, the special class teacher does face a problem of shortage of time. If pupil functioning in basic skills is so diverse that no grouping is possible, then a separate program must be designed and implemented for each pupil. For such situations, the procedures in *Corrective Teaching* will be helpful to the teacher in planning and implementing those individualized programs. If the special class teacher is able to group for basic skills, then she too may have pupils who exceed the range of group programming. Then, *Corrective Teaching* would be applicable to her as it is to the regular teacher.

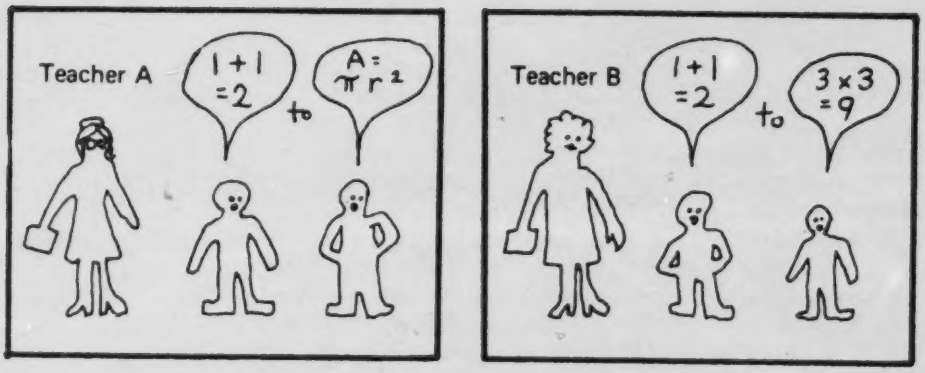
4

So far in our discussion of corrective teaching, it has been indicated that:

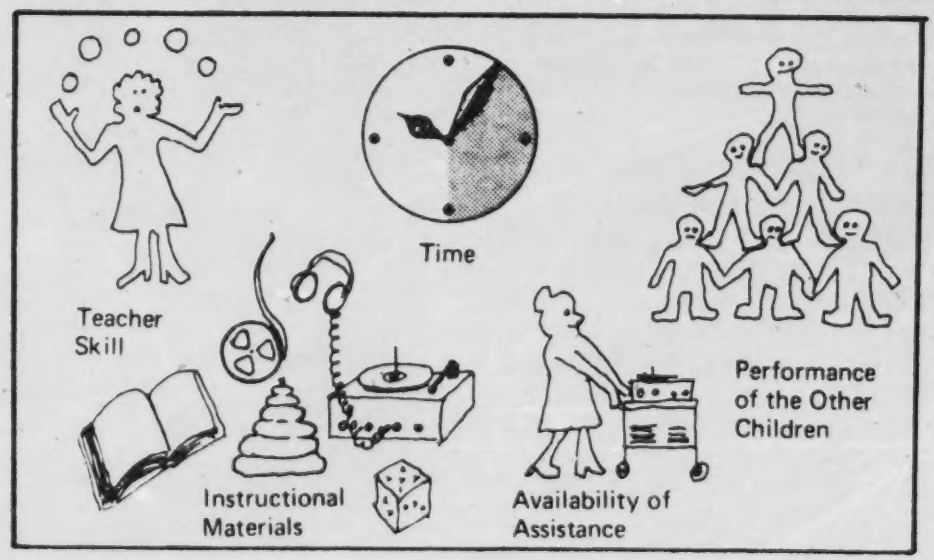
1 Many approaches have been used to group children so learning will be increased.



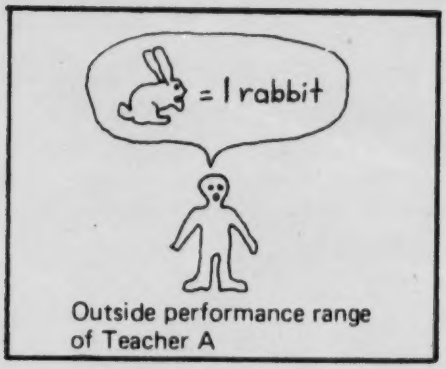
2 The range of pupil performance in a subject area that can be served differs among teachers.



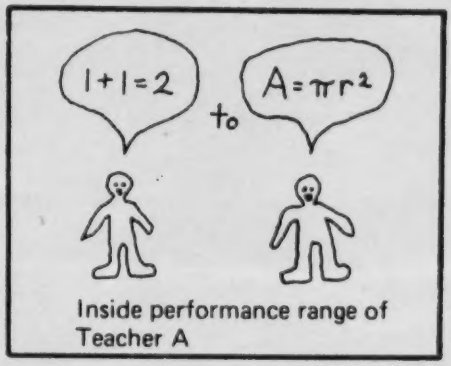
3 Many factors influence the range of pupil performance that a teacher can serve.



4 Children who do not fit the range of performance provided are in need of corrective teaching.

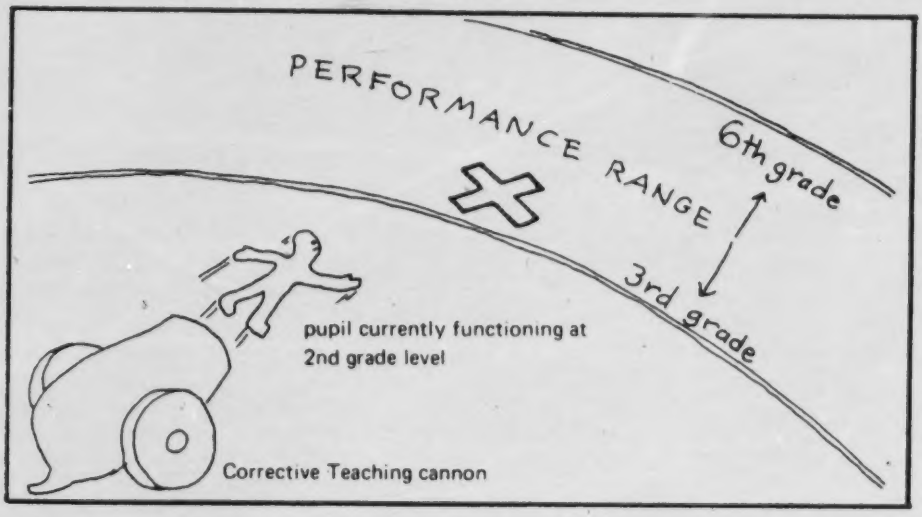


Outside performance range of Teacher A

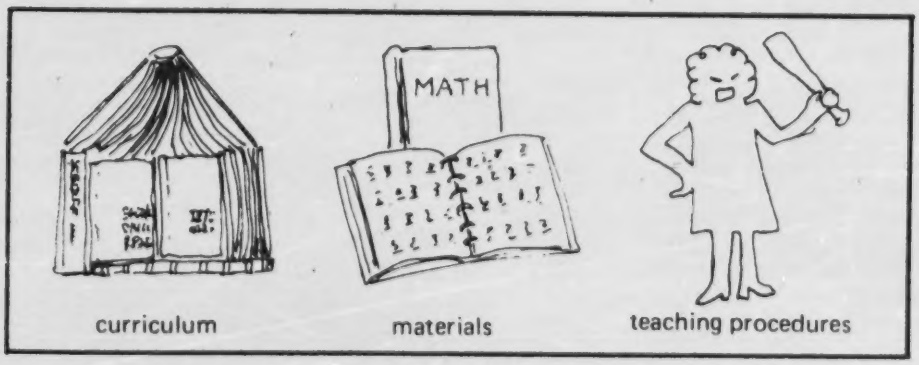


Inside performance range of Teacher A

5 Corrective teaching is intended to give the pupil the skills necessary to function within the range of performance served.



6 If many pupils need corrective teaching then there may be something wrong with:



7 Corrective Teaching is useful to:

regular teachers wanting a pupil to profit from the existing large or small group instruction

resource teachers wanting to return pupils to the regular classroom for instruction

special class teachers wanting to integrate pupils . . . or wanting to serve pupils in their own large or small group instruction

all teachers needing to develop an individualized program for a specific pupil.

2 Before Corrective Teaching

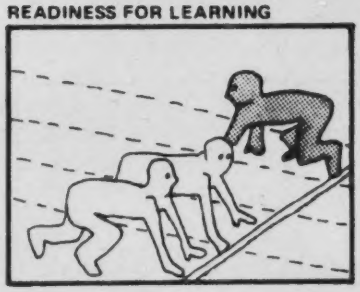
Before entering into corrective teaching the teacher needs to consider her use of basic principles of instruction. If she is applying these principles routinely then she can move into designing a corrective program. However, if some of these principles are absent from the daily instructional program, it may be of greater benefit to the learner in question to incorporate the absent principles. Attention to what is lacking might provide the necessary impetus to expand the range of instruction offered in the classroom so corrective teaching is no longer necessary. In all instruction the teacher is advised to apply these principles to maximize pupil progress.

BASIC PRINCIPLES OF INSTRUCTION

Readiness for Learning
Motivation to Learn
Active Learner Participation
Exercise
Distributed Practice
Stressing Accuracy
Sequencing of Content
Minimal Change of Learning Situation
Immediate Knowledge of Results
Reinforcement of Successful Performance
Overlearning of Content
Movement from Concrete to Abstract
Using Learner Strengths

READINESS FOR LEARNING

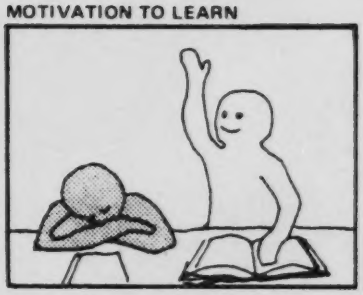
The learner must be ready to deal with the task put before him. Readiness for a task will depend on whether or not prerequisite skills have been mastered. For example, if the learner has not developed proficiency in grouping objects by some common property, it would be premature to ask him to associate sets with a like number of objects. *Auditory Training* (SECDC, 1972) emphasizes the importance of basic skills in listening and auditory discrimination as precursors to formal reading. Critical examination of learner performance and analysis of the task to be mastered will let the teacher determine the readiness level of the pupil.



8

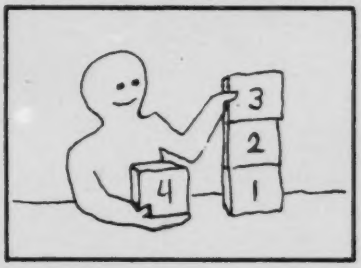
Motivation comes from within the child and is based upon a need to learn what is presented. Motivation os some children stems from a high achievement orientation nurtured by frequent success, motivation may need to be based on extrinsic rewards provided by the teacher. Ultimately, the goal is motivation based on a desire to learn what is presented.

MOTIVATION TO LEARN



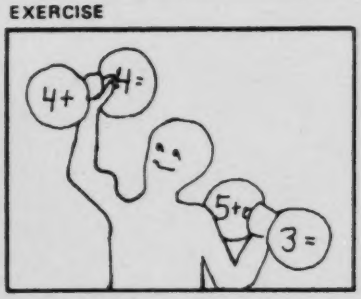
Until the learner is actively involved in the learning task, that is responding by stating answers, computing problems, grouping objects, matching words or other overt behaviors, learning will not occur. Opportunities must be given to respond often and in a variety of ways or the learner will not be able to experience the content or the teacher evaluate pupil progress. Measuring the number of pupil responses during an activity would have greater merit than measuring the duration of the activity.

ACTIVE LEARNER PARTICIPATION



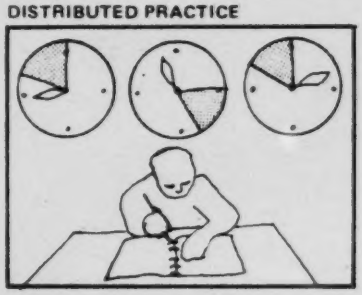
As the athlete must exercise to build up his skill level so must the student. Planned repetition provides the opportunity for mastery of the desired response. If the nature of the exercise experiences are varied, ability to accurately deal with the content in different situations is also strengthened.

EXERCISE



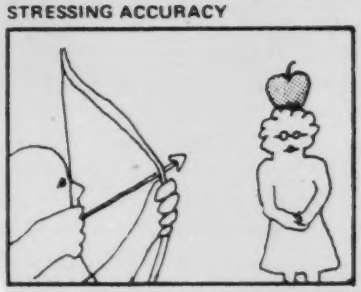
Practice needs to be distributed if the learner is to master a task. Frequently the school day is designed to provide one thirty-minute learning situation each day of the week per content area. For a pupil with difficulties, there might be greater advantage in providing three ten-minute practice, the frequency will generally need to be greater than that provided the average learner.

DISTRIBUTED PRACTICE



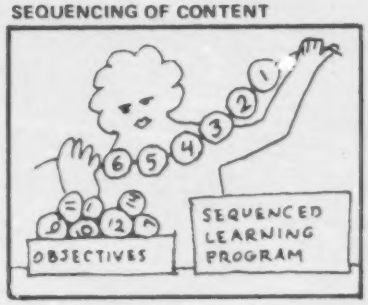
The significance of stressing accuracy in skill areas is well expressed in *Quality Math Experiences* (SECDC, 1971). Pupils with learning difficulties may assume that the goal is to complete the task, not to respond correctly to each item. Until the importance of being accurate is learned the energies of the pupil will not be directed toward achieving mastery over the tasks.

STRESSING ACCURACY



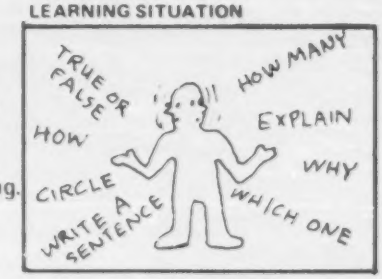
The relationship of one skill to the development of a higher level skill is most important. It is not uncommon to find children, for example, who need to learn multiplication but somehow missed mastering the concept of place value. Pursuing the higher level skill without mastery of lower level skills may cause a breakdown in the learning of the new skill being taught or other higher level skills in the future.

SEQUENCING OF CONTENT



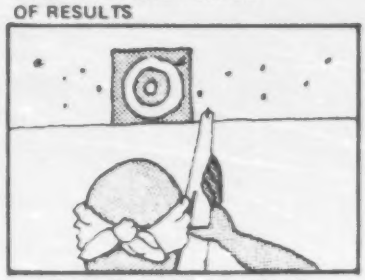
Effectiveness of learning is increased if the changes between and within learning situations are not too great. This permits the learner to establish a set in regard to tackling the tasks presented to him. While the school day requires many changes, it is possible to begin with material that has been mastered to assist the pupil in making transitions between situations. Likewise within practice situations, starting with content that the pupil can handle in the format in which the new content will be introduced will aid learning.

MINIMAL CHANGE OF LEARNING SITUATION



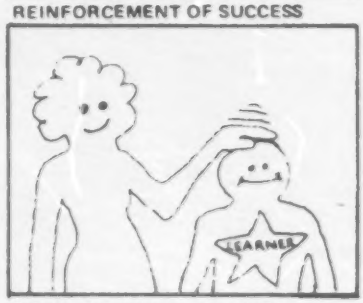
If the practice provided by the teacher is to be meaningful, the learner must have feedback on the accuracy of his results. Since incorrect response patterns frequently have been developed, delayed feedback may perpetuate errors. Knowledge of results should be given after task completion so corrections can be made. The quality of practice, based in part on the immediacy of feedback, is of prime importance in corrective teaching.

IMMEDIATE KNOWLEDGE OF RESULTS



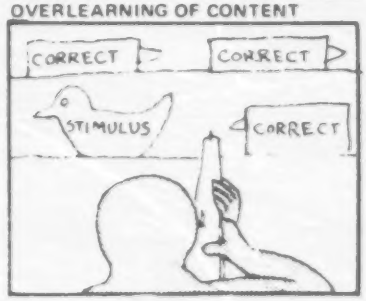
The energy and effort put forward by the learner to master the task must have some pay-off for him. The smiles, words of praise, privileges or tangible rewards used by the teacher helps the learner perservere when the going gets tough. High motivation may be based on how the teacher chooses to reinforce successful performance.

REINFORCEMENT OF SUCCESS



Overlearning is the practice of a task beyond the point of initial mastery. A few correct responses are not sufficient for the response to become automatic. Our skills in driving an automobile, while correct, were initially labored and mechanical. Now, with overlearning or practice beyond the point of initial mastery, we are now able to respond correctly to driving situations without analyzing all of the elements of each situation. This automatic response is what is sought from the learner.

OVERLEARNING OF CONTENT

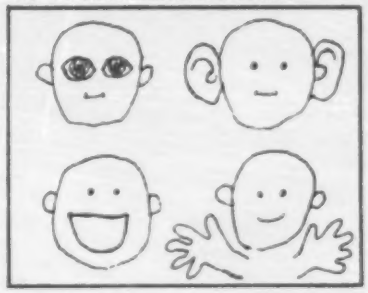


The pupil with difficulties is often unable to distinguish all the key elements in the learning situation. He is aided by using concrete materials until the principle or type of response desired is identified and practiced in a situation that he can grasp easily. Mastery at a concrete level is necessary before abstractions can be dealt with. While this principle is well known, it may be one of the most overlooked.

MOVEMENT FROM CONCRETE TO ABSTRACT

Kids learn in different ways. Some learn visually, some auditorally and some need to manipulate materials if they are to learn. Children with learning difficulties generally are not efficient print learners. Knowing how the pupil learns and devising tasks that permit him to use his learning strengths is paramount to a successful instructional design. Because some pupils are not strong in any single approach, methods that emphasize a combination of approaches are necessary.

USING LEARNER STRENGTHS



3
Building a Corrective Teaching Program

Building a corrective teaching program is not unlike any construction that is ventured into for the first time. There are directions and basic steps that have to be followed. The steps provide a sequence that is to be followed so the end result comes out like you had hoped. However, the directions and steps become more difficult and complex as the end becomes closer, requiring greater care and precision. A final step uncarefully completed will affect the appearance and utility of the entire operation. With any procedure, after a few completed uses it becomes second nature and the need for written guidelines can be discarded for good.

The process of building a corrective teaching program will not appear greatly unfamiliar to the teacher. In many respects it represents the teaching model that she may currently be using in her classroom. If so, so much the better for it will make it all the easier for her. What is different is the applicaton of the model to the task of *re-storing* a pupil to small or large group instruction in a special or regular education setting. It is this allocation of teacher energy to permit a pupil to develop or increase skills so that he may participate in instruction with others that is central to building a corrective teaching program.

- Step 1 ISOLATE THE PROBLEM
- Step 2 IDENTIFY PERFORMANCE NECESSARY FOR RE-ENTRY
- Step 3 ANALYZE THE TASK
- Step 4 WRITE INSTRUCTIONAL OBJECTIVES
- Step 5 DESIGN THE PROCEDURE

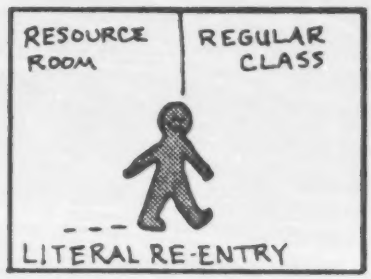
The teacher will find no difficulty with this initial step. The problem area to be isolated is the performance area that causes the teacher concern. When the teacher says, *He doesn't even fit in my lowest reading group,* she has isolated the problem area. Or when she indicates, *He functions so low in* (problem area) *I will need to design everything for him individually,* the problem area has been isolated. Generally, the problem areas that will cause teachers to be concerned are:

Reading	Self help Skills
Math	Oral Communication
Listening Skills	Completion of Written Assignments

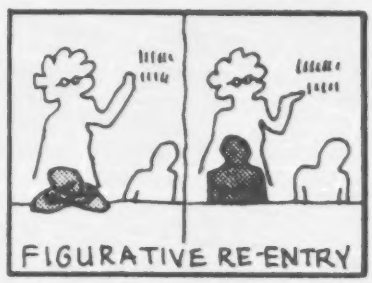
Step 1 ISOLATE THE PROBLEM
● **Step 2 IDENTIFY PERFORMANCE NECESSARY FOR RE-ENTRY**
Step 3 ANALYZE THE TASK
Step 4 WRITE INSTRUCTIONAL OBJECTIVES
Step 5 DESIGN THE PROCEDURE

Defining the performance level that the pupil must achieve to be able to function at a minimal level of success in the selected situation is the next step. At this point the teacher looks more closely at the situation to which she wishes to return the pupil.

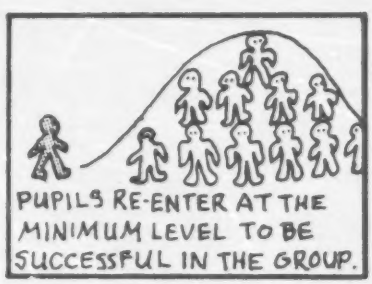
In some situations the process of returning the pupil will be literal. Pupils who are in resource programs to strengthen their performance in reading are to be returned to the regular reading program. Or pupils in regular or special classes who because of inferior performance do their math work in materials unlike their classmates are to be returned to receiving their instruction with others. So far, returning a pupil has been used in a physical sense. We also have the pupils who have figuratively left the group instruction program because they have ceased to benefit from the materials or content. In such cases our purpose would be to re-establish the pupil as an active learner in the situation.



In identifying re-entry performance the teacher concentrates on the minimum level necessary for the pupil to benefit. The teacher might feel that special assistance would be warranted at that level, but at least he could profit from a larger amount of the instruction offered his peers. Assuming that he was profiting, more time would be available to plan the special assistance because of reducing the total amount of individually planned work for him.



Identifying re-entry point is rather abstract. To make it less abstract, the teacher can use the pupils who are benefiting from the situation but who demonstrate the lowest acceptable achievement as a benchmark. She evaluates the performance of those pupils to help identify re-entry point. In looking at those pupils the teacher considers: skills possessed, materials used, and performance rate.



Consider the following examples of description of group or class functioning. The pupil in need of corrective teaching does *not* meet these levels of achievement.

● ● ● ● ● **SITUATION 1**

A second grade class uses the Scott-Foresman program as the basal reading program. Pupils in the lowest of three reading groups have a basic sight vocabulary of at least 45 words. In oral reading, the lowest pupil reads 15 words per minute (excluding errors). Pupils are given independent seatwork associated with word attack skills three times a week, completing it with at least 80% accuracy.

● ● ● ● ● **SITUATION 2**

The Ginn program is used in a third grade classroom. Pupils who function the lowest are able to add two digit numbers with carrying, subtract without borrowing and count by 2s and 5s to 100. On computational problems, the lowest pupil can do five problems correctly per minute.

● ● ● ● ● **SITUATION 3**

In a high school special education class, the pupils can make

change up to one dollar with 100% accuracy. The situation consists of giving an amount less than one dollar that is spent with the pupil computing the amount to be returned and counting out the correct change. Time has not been a consideration.

• • • • •**SITUATION 4**

Twenty spelling words are given each week in a fifth grade class. Pupils complete at least 12 correct on the test. Also, during the week, the pupils complete exercises in a spelling book with no less than 70% accuracy.

• • • • •**SITUATION 5**

In a junior high age class of trainable students, all children can recognize their name in print (manuscript) and correctly give their telephone number on request.

• • • • •**SITUATION 6**

In a fourth grade language arts class, on selected topics, the lowest pupils are able to write three sentence paragraphs. These are made of simple sentences and correctly punctuated with capitals, periods and question marks at least 60% of the time.

After determining where the lowest pupils in the selected situation are functioning, the teacher is ready to formulate a statement of re-entry requirements. It might be that the current lowest functioning members represent the minimum acceptable level or the teacher may choose to lower the requirements. Regardless, the requirements are now set forth in a *goal statement* for the corrective teaching program.

The goal statement written by the teacher includes three basic components:

WHEN the goal will be accomplished
WHAT the pupil is going to do
CRITERIA used to determine success

Continuing with the previous situation as examples, goal statements would be written as follows:

• • • • •**SITUATION 1**

A second grade class uses the Scott-Foresman program as the basal reading program. Pupils in the lowest of three reading groups have a basic sight vocabulary of at least 45 words. In oral reading the lowest pupil reads 15 words per minute (excluding errors). Pupils are given independent seatwork associated with word attack skills three times a week, completing it with at least 80% accuracy.

WHEN	WHAT	CRITERIA
by November 12	sight vocabulary, oral reading in basal reader, complete independent seatwork on word attack	45 words from the teacher's list, 15 words per minute (excluding errors) 80% accuracy

Completed goal statement:

By November 12 Sally will have a sight word vocabulary of at least 45 words from the teacher's list, orally read at least 15 words per minute in basal reader and complete associated word attack seatwork with 80% accuracy.

• • • • •**SITUATION 2**

The Ginn program is used in a third grade classroom. Pupils who function the lowest are able to add two digit numbers with carrying,

subtract without borrowing and count by 2s and 5s to 100. On computational problems the lowest pupil can do five problems correctly per minute.

WHEN	WHAT	CRITERIA
end of second grading period	add 2 digit numbers with carrying,	85% accuracy
	subtract without borrowing, count	85% accuracy
	by 2s and 5s to 100, compute above	100% accuracy
	addition and subtraction problems	5 correct per minute

Completed goal statement:

By the end of the second grading period Peter will be able to add two digit numbers with carrying and subtract wihtout borrowing with 85% accuracy. He will also be able to count by 2s and 5s to 100 correctly and complete the above computational problems so as to correctly finish five problems per minute.

• • • • • SITUATION 3

In a high school special education class the pupils can make change up to one dollar with 100% accuracy. The situation consists of giving an amount less than one dollar that is spent with the pupil computing the amount to be returned and counting out the correct change. Time has not been a consideration.

WHEN	WHAT	CRITERIA
February 2	make change up to one dollar	100% accuracy

Completed goal statement:

By February 2 make change up to one dollar with 100% accuracy.

The remaining situations do not have the goal statements completed. YOU complete them. Possible components of goal statements can be found following the uncompleted goal statements. Try it, they are easy to write!

• • • • • SITUATION 4

Twenty spelling words are given each week in a fifth grade class. Pupils complete at least 12 correct on the test. Also, during the week, the pupils complete exercises in a spelling book with no less then 70% accuracy.

WHEN	WHAT	CRITERIA
_____	20 word spelling test	_____ words correct
	spelling book exercises	_____ % accuracy

Completed goal statement:

_____

_____

• • • • • SITUATION 5

In a junior high age class of trainable students, all children can recognize their name in print (manuscript) and correctly give their telephone number on request.

WHEN	WHAT	CRITERIA
_____	recognize _____	_____
	verbally give _____	_____
		_____

Completed goal statement:

_____

_____

• • • • • SITUATION 6

In a fourth grade language arts class, on selected topics, the lowest pupils are able to write three sentence paragraphs. These are made of simple sentences and correctly punctuated with capitals, periods and question marks at least 60% of the time.

WHEN	WHAT	CRITERIA
_____	_____	_____
	_____	_____

Completed goal statement:

_____

_____

Possible components of goal statements from previous page:

• • • • • SITUATION 4

WHEN	WHAT	CRITERIA
any date in the future, e.g., by March 3	20 word spelling test	12 words correct
	spelling book exercises	70% accuracy

Completed goal statement:

By March 3, complete 12 words correctly on each spelling test and complete 70% of the spelling book exercises correctly.

• • • • • SITUATION 5

WHEN	WHAT	CRITERIA
any date in the future, e.g., April 15	recognize name in manuscript form	100%
	verbally give telephone number on request	100%

Completed goal statement:

By April 15 recognize name when in manuscript form and give telephone number on request at all times.

• • • • • SITUATION 6

WHEN	WHAT	CRITERIA
any time in the future, e.g., May 2	write paragraph	at least 3 simple sentences in length
	use capitals, periods and question marks	60% accuracy

Completed goal statement:

By May 2 write paragraphs of at least 3 simple sentences that are correctly punctuated with capitals, periods and question marks 60% of the time.

Why Write Goal Statements?

Formulating re-entry level and converting it into a goal statement does take teacher time. However, if the teacher is going to remediate the learning problems of children the goal that she is striving to accomplish must be identified so she can work toward it. The when, what and criteria components are crucial because:

- The *when* sets a target date. With goals that will be accomplished from two weeks to a semester away being written, if time isn't specified the target date often has a tendency to move even further away. Writing goals moves us to action.
- The *what* and *criteria* establish the purpose behind and direction of the teacher's expenditure of energy. By specifying these, the teacher is able to work toward pupil progress with a predetermined outcome in mind. The likelihood of restoring the pupil to the group is increased.
- Goal statements can be shared with the pupil to increase pupil initiative.
- Goal statements can be used during conferences with parents to communicate what you are doing.
- Goal statements will communicate to consultants or principals the purpose of intervention being provided.
- The goal statement will serve as a method of evaluating the intervention.

A Comment on Writing the When in Goal Statements

By looking closely at what she wishes the pupil to be able to do, the teacher should not have great difficulty in composing the *what* and the *criteria*. Determining the *when* is another issue. Setting a date at which time the pupil will have mastered new skills is certainly difficult. Here the teacher must use her best clinical judgment to determine optimum rate of learning. As the teacher acquires experience with corrective teaching the task becomes easier. Without encouraging unrealistic projection on time, it should be noted that most deadlines we establish for ourselves are seldom achieved earlier.

Predictions on *when* the goal can be accomplished will be improved by:

gathering all relevant information
getting input from other teachers
using the services of appropriate special service personnel

What is Short Range Re-entry Isn't Possible?

Two possible problems may exist for the teacher in establishing performance necessary for re-entry. The first is that as corrective teaching moves the pupil closer to re-entry, the real re-entry requirements increase in difficulty. For pupils who are not severely academically impaired, movement of the re-entry point should not constitute too great a problem. However, as the timetable for re-entry nears a semester or more, the possibility of this occurring increases. Here the teacher, using her knowledge of the other pupils and the curriculum as a guide, can estimate the degree to which it will be an obstacle. The worst that could happen would be the

need to re-establish entry requirements after the first goal was accomplished. As opposed to the subtle problem of a slight shift in re-entry requirements is the problem of a pupil being so severely handicapped academically that re-entry is not remotely possible during the course of the school year. Accompanying this is what might be a fruitless task of analyzing the performance of an existing group, knowing that such performance is far in the distant. An example would be a resource teacher instructing a boy in reading who functions at the second grade level, but who otherwise would be receiving reading instruction with his fifth grade peers. Also, teachers of trainable pupils may well have a pupil population that prohibits grouping, thus no group exists with which to compare.

An alternative exists that permits the teacher to establish direction for corrective teaching in such situations. Using the problem area isolated as a reference, the teacher *hypotheses* the performance level that the pupil could reach at the end of the semester, if maximum, but reasonable progress occurred. The teacher is simply asking herself, *What do I want the pupil to be able to do in the problem area by the end of the semester?* Her response, if it has the what and the criteria specified provides the basis for writing the goal statement. It should be mentioned that by restricting the goal to no more than one semester or about 90 days keeps the purpose of the corrective teaching within sights. Longer than ninety days increases the difficulty of reasonably determining the time and what. If the goal the teacher wants achieved can be mastered in less than ninety days, then the earliest possible date of accomplishment should be used.

When the Teacher will NOT use a Peer Reference

In a primary class of trainable pupils the teacher might specify a list of expressive vocabulary words that she would want a pupil to use correctly, i.e., names of colors, names of common food, or articles of clothing.

A resource teacher for children with learning problems might wish to specify the sight words that a pupil would be able to identify.

A teacher of educable pupils might wish to specify the number operations that a pupil would be able to perform. For example, for one pupil the ability to compute quickly and accurately common addition combinations such as $5 + 4 = 9$, $9 + 7 = 16$, or $6 + 8 = 14$. Or, the teacher might be concerned with the ability of a pupil to tell time to the nearest five minutes with a wristwatch.

A regular class teacher might wish to have a pupil master blends and digraphs as part of word attack skills, a skill the rest of the pupils possess.

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● **Step 3 ANALYZE THE TASK**
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Now that the job to be accomplished is identified the teacher analyzes the task that stands before her. This is a crucial step because it will give direct guidance to the teacher in determining where to begin. In trying to help a child with problems, identifying the problem area and determining how we would like him to perform is rarely difficult. Our failure to solve the academic problem generally results from not going beyond deciding what we would wish him to do.

The goal statements are too broad to teach at one time. Thus the teacher carefully unfolds the many layers of instruction that comprise it. She is, in effect, creating components of the goal that she can easily work with. At this time, the teacher also considers the current skill level of the pupil. Rarely would the pupil be deficit in all skills related to the goal accomplishment. By subtracting the skills the pupil has mastered from those he needs to obtain, the meat of corrective teaching is established.

DOING THE TASK ANALYSIS

Doing the task analysis involves the breaking down of the task into its simpliest steps.

Identify the Hierarchy of Content Skills

Example: Independently setting 1 place setting of silverware with plate already in place.

1. Visual recognition of knife, fork, spoon
2. Visual recognition of 1 set of silverware
3. Placement of fork to left of plate, handle toward bottom
4. Placement of knife to right of plate, handle toward bottom, blade toward plate.
5. Placement of spoon to right of knife, handle toward bottom, bowl of spoon up.

Example: Tracing of capital A manuscript form

1. Holds pencil correctly
2. Pencil placed in starting position
3. Pencil moved upward on dotted line
4. Pencil moved downward on dotted line
5. Pencil taken off dotted line
6. Pencil placed on crossbar line
7. Crossbar completed
8. Pencil taken off paper

Example: Matching of consonant sound B with 1 of 4 pictures presented on a worksheet

1. Visual recognition of B
2. Auditory recognition of B sound when presented
3. Discrimination of words with B sound when presented orally
4. Recognition of pictures presented (sketch of ball, watch, car, dog)
5. Marking of appropriate picture with an X

Consider the Type of Response to be Made

Oral Response
- factual
  - 2 + 2 =
  - ball
  - larger
- explanation
  - the glass would hold water, the sieve wouldn't
  - the car would hit the boy getting the ball
  - the father is larger than the son because he is older
- generalization
  - containers that aren't solid won't hold water
  - going into the street without looking is dangerous
  - people grow as they get older

Written Responses
- factual
  - write
  - match
  - connect with lines
  - true/false
  - multiple choice
  - fill in the blank
  - underlining
  - write words/phrases
- explanation or generalization
  - sentence
  - 1 paragraph
  - more than 1 paragraph

Manipulation of Materials
- sorting
- arranging
- assembling

Look at the Basis of Responding Correctly

- visual discrimination - sounds, words
- visual memory - letter recognition, color recognition sight words
- auditory memory - pronunciation of words or letter sounds, information given orally
- fine motor coordination - writing, cutting, coloring, self-help skills
- understanding of key words - circle, match, below, next to, more than, less than, equal to
- following of a series of directions (oral or written), i.e., draw a line from the picture to the word, (2) color the pictures, (3) write your name on the back
- movement orientation - (1) left to right in writing and reading (2) right to left in addition, subtraction and multiplication
- speed orientation - completing seatwork within allotted time
- tolerance for quiet activity - reading, completing seatwork, attending to large or small group activities
- control of extraneous stimuli - ignoring what is seen or heard from other peers while continuing to work on task at hand
- organization of information into a sequence - formulating sentences and paragraphs, oral responses, repeating of 1st, 2nd, 3rd events in situation or story
- organization of information on page - spacing of letters, words, pictures

Example of Analysis of Task

Goal statement:

By November 12 Sally will have a sight word vocabulary of at least 45 words from the teacher's list, orally read 15 correct words per minute and complete associated word attack seatwork with 80% accuracy.

Skills Involved	Present Pupil Performance
Sight Word Vocabulary:	
discrimination of visual symbols (ability to match like symbols)	ok
expressive language, can reproduce the words correctly upon request	ok
recognition of letters	confuses the b-d and p-g
discrimination of likenesses/differences in letter combinations or words (hat-hoe; him-her; toy-toys)	looks at first letter only, not configuration of word
visual recall of the 45 words	recognizes 17 of the 45 words
Oral Reading:	
sight word vocabulary of at least 25 words from basal reader	recognizes 17
left to right movement when reading	ok
reading without repetitions	repeats about every other word
rate of 15 correct words per minute	rate of 5 correct words (unaided) per minute
Word Attack Seatwork:	
identification of sound of consonants when occur in initial and ending positions	knows b, p, l and s
learning set of identifying a picture on a worksheet and stating initial or ending sound	no
ability to follow verbal and written directions that contain: circle, put an X on, or color the picture	no
80% correct on seatwork	about 2 correct responses per page

Note of explanation on the preceding breakdown:

The reviewer of the preceding material could easily be tempted to say, *The ability to reproduce words correctly upon request is too big a step! Reproduction of sounds precedes it!* There is no disagreement to the statement that there is a skill leading to the one listed. However, the teacher doing an analysis of the skills must make a decision on the degree to which she will *need* to break down the skills. Taking each skill listed to its smallest part would require a tremendous amount of time. Time which is not overly abundant to the teacher. The teacher does need to break each skill down to the smallest component necessary to analyze the requirements and assess current functioning of the pupil. Decisions on where to begin are based on the teacher's knowledge of the current functioning of the pupil. In teaching the tasks, the teacher will telescope tasks or break simple tasks down into sub-tasks as appropriate for the learner.

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The goal that the teacher develops in Step 2 is really what she wants the pupil to be able to do as a result of corrective teaching. Unfortunately, the goal being representative of the final destination, may appropriately reflect instruction that occurs over a period of months or the remainder of the school year. That's a long time to wait to see if corrective teaching is working. Also, the goal may be too global to help the teacher focus in on the sequence of skills identified in Step 3. The instructional objective provides short range direction and feedback to the teacher as she attempts to accomplish the goal.

Before discarding the idea of writing instructional objectives as a bad idea, let's take a look at why many teachers dislike using them.

The first two complaints about writing instructional objectives are not valid in corrective teaching. Granted, writing good instructional objectives do take time. However, in corrective teaching they are written for a time period that may extend from 5 days to 45 days in length. So, the teacher would not be asked to compose a new objective for each lesson or every day. Over a 45 day period, the time investment in writing an objective becomes insignificant. At the same time, the objective does provide meaningful feedback on pupil progress toward the objective. Because the teacher uses it to gauge the effectiveness of procedures in terms of pupil progress, it is not an academic exercise, it is a tool.

What if you don't know how to write an instructional objective? Hopefully, the examples and explanation that follows will provide sufficient insight for you to master the skill. If not, there are two other alternatives. Special education personnel, such as consultants, speech clinicians and school psychologists, are generally knowledgeable of how to write an instructional objective. In addition to your colleagues, a video-tape is available that is designed to teach the writing of instructional objectives. It can be obtained by contacting

Cooperative Network of Inservice Resources
9 Westwood Drive, Marshalltown, Iowa 50158
toll free telephone: 1-800-542-7821

The name of the film is *How to Write Instructional Objectives* (DPI, 1972)

Writing Instructional Objectives

As in the goal statement, the instructional objective also considers **when** it will be accomplished, **what** the pupil is going to do and the **criteria** of level of accomplishment that will indicate success.

In addition, there are three more components that are used in writing instructional objectives:

- **Who** is responsible for the instructional objective being carried out?
- **To whom** is the instruction going to be provided?
- How will the **evaluation** to determine accomplishment of the criteria be carried out?

Using a completed goal statement and information from the task analysis, an instructional objective for it would be as follows:

Goal statement:

By November 12 Sally will have a sight word vocabulary of at least 45 words from the teacher's list, orally read at least 15 words per minute in the basal reader and complete associated word attack seatwork with 80% accuracy.

Components of the Instructional Objective:
When: By September 28
Who: The teacher
What: Discriminate the letter b-d and g-p
To whom: Sally
Criteria: 100% accuracy
Evaluation: The teacher will keep record of percent of errors during each lesson and record in grade book

Completed Instructional Objective:

By September 28 following procedures of the teacher, Sally will discriminate the letters b-d and g-p correctly 100% of the time. The teacher will keep record of percent of errors during each lesson and record the information in the grade book.

Note the following:

- The objective moves toward goal accomplishment but doesn't necessarily accomplish the entire goal.
- The substance, or what, of the objective is determined from the task analysis already done.
- The objective determines what will be achieved, but not how it will be achieved.
- As objectives are accomplished, new objectives are written as necessary until the goal is accomplished.

It is realistic that a teacher would in many cases be working on the accomplishment of more than one objective at a time in a corrective teaching program. However, it would be important that objectives not be dependent on one another. For example, mastering of number concepts 1, 2, 3, 4, etc. would be required before work would be done in addition.

Still using the previous goal statement and task analysis the next two instructional objectives would also be appropriate:

1. Components of Instructional Objective
When: By October 15
Who: The teacher
What: State whether the beginning, middle or endings of two words are alike
To Whom: Sally
Criteria: 90% accuracy
Evaluation: Record percent correct at least 3 times a week in the grade book
Completed Instructional Objective

By October 15, Sally will state when presented two words by the teacher whether the words have the same beginning, middle or ending at 90% accuracy. The teacher will record the percent correct at least 3 times a week in the grade book.

2. Components of Instructional Objective
When: By November
Who: The teacher
What: Recognize selected words on sight
To Whom: Sally
Criteria: At least 45 words
Evaluation: A list will be kept
Completed Instructional Objective:

By November 1, under the direction of the teacher, Sally will recognize at least 45 selected words on sight. A list will be kept of the words that Sally can recognize.

Example Component Alternatives in Writing Objectives

	Example of Components	Question Answered
WHEN	by November 12 by the end of the first semester by the second parent conference after 10 class sessions	**When** *can I expect, or hope to see change in the student?*
WHO	teacher another teacher parent aide	**Who** *is going to make sure the objective is carried out?*
WHAT	recognize write read complete sort name say discriminate point spell	**What** *behavior will the student be able to perform?*
TO WHOM	Sally pupil learner student	**Who** *does the objective pertain to?*
CRITERIA	60% all at least 45 one or more	**What** *constitutes success?*
EVALUATION	recording percent correct counting frequency of behavior test at end of two weeks	**How** *will the evaluation be done to determine if criteria was met?*

These are only examples, there are still other ways.

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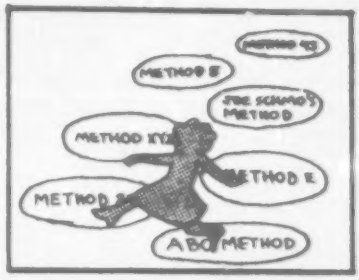
● Step 5 **DESIGN THE PROCEDURE**

This is the last step before implementation of the corrective teaching program. At this point the teacher looks at the objective that she has just written and determines how she will achieve it. The procedure is the **HOW**. This step will be repeated as it becomes necessary to formulate new objectives to reach the goal.

The design of the procedure is crucial to the success of the corrective teaching program. The learner in question has more than likely demonstrated failure with the content at an earlier time. Therefore, it will be even more important than usual that he experiences initial success. Even if he has not dealt with the content before, his consideration for corrective teaching would indicate that his ability to learn from traditional methods is below average. From the teacher's point of view, time is at a premium. The time that she can spend working with a pupil on a one to one basis may not be great, thus the time spent must be maximally effective in producing results. From the teacher's standpoint also, the more efficient the design in producing desired pupil change, the greater will be the likelihood of successful return of the pupil to the group.

In general, the how or procedure that is finalized is a composite of the instructional materials and methods the teacher will use to help the learner. A well designed procedure can provide two services to the teacher: serve as a vehicle by which to achieve the objective or give feedback about what isn't effective.



Emphasis on procedure is intended to help the teacher avoid jumping from one procedure, method, instructional material to another.

Rather . . . design it, implement it, evaluate it -- give it a chance to work.

Examples of *What is to be Done*

Instructional Materials	**Procedure**
1. Wisconsin Design for Reading, activities for word rhyming	Follow directions
2. *Auditory Training,* SECDC (1972) Auditory Memory lessons 1 through 5	Follow directions
3. Sullivan Reading Program, Book 4	Follow directions
4. *Candy Land* game board, new game cards with consonants made by teacher	In a game situation, pupil moves spaces indicated on card by correctly giving the sound of the consonants on the card drawn. The consonant cards are used to pre-post test pupil before and after each game.

5. Multiplication facts flashcards, 1 x 1 up to 4 x 4; dartboard with problems on it	Before and after use of dartboard, a pre-post test in administrated with results charted. Pupil throws darts at board with problems on it. Scores 2 points for each correct answer. Rotate turns.

How Many/Much is to be Done?

How many or how much that is to be done is equated with the scope of each instructional session. The teacher specifies the

Quantity of Work to be Done
- number of pages to be completed
- number of problems to be completed
- number of lessons to be completed

Amount of Time to be Spent
- 5 minutes
- from completion of arithmetic work until lunch
- from arrival in morning until bell rings

The materials will determine whether the how many/much will be directed toward quantity or time. For example, if a teacher was using lessons from the Peabody Language Development Kit, it would be easier to express how much/many in terms of one lesson than time. Likewise, with programmed reading material, pages would be easier to specify than time. The number of arithmetic problems to be completed, if the pupil worked on them at various times during the day, would be easier to specify than time. The opposite is true though when one-to-one instruction or game situations are used. Indicating that 20 minutes would be spent for the pre-post test and playing the modified version of Candy Land would be feasible, specifying moves wouldn't.

How Often is it to be Done?

Next, the teacher considers the frequency that the pupil will be doing the *what* and the *how many/much*. That is, she decides how often the following will be done:

- word rhyming activities from Wisconsin Design for Reading, one activity
- selected lessons from *Auditory Training*, SECDC, one lesson
- Sullivan Reading Program, Book 4, 4 pages
- Candy Land game, 20 minutes
- multiplication fact flashcards, dartboard activity, 10 minutes

Her answers could be expressed as:

- once each day
- four times a week
- two times a day, four days a week
- once a day for first week, 3 times a week thereafter

How to Design the Procedure

In designing the procedure the teacher decides:

What is to be done
How much/many is to be done
How often is it to be done
Who is to do it

What is to be done?

The *what* is composed of the instructional materials to be used and also the method the teacher will use in working with the materials and/or pupil. In a sense, this is a recipe, just as the cook uses one in his work. The major difference being that the teacher writes her own recipe, the cook generally doesn't. While the what is crucial, it will not require the teacher to write a book each time. Many instructional materials come complete with specific instructions on the method in which they are to be used. As the teacher deviates from commercially prepared materials and creates her own, it will be more necessary to construct the teacher directions to be followed.

Who is to do it?

The teacher is the designer of the corrective teaching program. However, to bring about the child change that she is seeking does not require that *she* be the one to work with the child. The better the design for corrective teaching the easier it will be to have others implement it. Having others implement the design is not without problems, but it is important to recognize that the teacher may monitor child progress with implementation being done by someone else.

The *who* might be:

you, the teacher
college students
teacher associates
parents
high school students interested in becoming teachers
another teacher in the building
pupils in your class
the pupil himself
pupils from another class
volunteers in the schools

CORRECTIVE TEACHING PROCEDURE -- Letter Recognition: An Example

Instructional Objective:

By September 28, following procedures of the teacher, Sally will visually discriminate the letters b d and g p correctly 100% of the time. The teacher will keep record of percent of errors during each lesson and record the information in the grade book.

- *What is to be done?*

MATERIALS

Worksheet with 3 lines of b on them. Other worksheets for the letters d, p and g.
Letter cards of the entire alphabet, 10 cards of b, d, g & p.
Plain lined paper
Flash cards that begin with b, d, g, p plus others

PROCEDURE

Step 1

1. Pupil traces and completes letter b
2. Pupil sorts letters into b, non b piles (no d's included)
3. Pupil makes 5 b's on paper using visual model
4. Pupil makes 5 b's on another paper, no model
5. Given 10 flashcards, pupil orally spells words. Teacher records percent correct. Cards do not have d, p or g in them, but have b.

Step 2

Once letter b can be produced at 100% level or 3 consecutive lessons and no errors in Step 1:5, then:

1. Introduce letter d, pointing out that it has been added
2. Do Step 1:1 using the d, also have pupil make one row of b's
3. Repeat Step 1:2, use d and b only
4. Repeat Step 1:3, with d and b
5. Repeat Step 1:4, with d and b
6. Repeat Step 1:5, only use words that begin with d and b, avoid letters p and g

Step 3

When previous criteria met, go to letter g, Step 1:1, using same procedure. However, in Step 1:2 continue to have letters d and b to sort so practice is provided. Also keep some b and d words in 1:5.

- *How many/much is to be done?*
  five-minute sessions--complete all of Step 1
- *How often is it to be done?*
  three times a day
- *Who is to do it?*
  the teacher

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CORRECTIVE TEACHING PROCEDURE -- Word Recognition: An Example*

Instructional Objective:

After 4 weeks of instruction, Peter will recognize on sight 60 of the 94 Dolch picture words. The teacher will assess pupil progress weekly and at the end of the four weeks.

● *What is to be done?*

MATERIALS

Dolch picture word cards, e.g., chair, puppy
paper, pencil
teacher made sentence cards, e.g., *There is the chair. It is their chair.*

PROCEDURE

1. Select 10 words that you wish to begin with, you may wish to let the pupil select.
2. Pre-test the student on each of the 10 words at one time.

Steps 3-10 are to be done in sequence for each word. That is, do the steps for chair, then repeat them for puppy, etc.

3. Present the word and say it, the pupil is to repeat the word while looking at it.
4. 2 words are presented, the pupil is asked to point to the word named by the teacher and say it.
5. The pupil sees the word and writes it.
6. The pupil sees the word, says it and spells it.
7. The word is said phonetically and the pupil gives the name of the word. The teacher points to the phonetic elements while saying them.
8. The pupil says the word phonetically and then pronounces it.
9. The pupil sees the word, copies it, and names it.
10. The word is presented and the pupil is to name it.
11. The pupil is post-tested on each of the words as in Step 2.
12. When the pupil correctly identifies the word on the pre-test, steps 3 through 10 are omitted, but the post test is still given. After 3 sessions in which the word is correctly identified on the pre- and post-test, the word is replaced by a new word.
13. After 10 words are mastered, these words are put into simple sentence cards. They are sent home with the pupil so he can practice. Selection of words will be dependent on non-noun vocabulary.
14. At the end of each week, the teacher will do a re-evaluation of words that have been mastered to check for retention.

● *How many/much is to be done?*

Do as many words as possible in 15 minutes.
The home reinforcement should not extend more than 20 minutes

● *How often is it to be done?*

Implement twice a day, 5 days a week.
Home reinforcement should not occur more then 3 times a week unless initiated by child.

● *Who is to do it?*

Teacher will implement the program for 1 week, afterward to be conducted by a teacher associate.
Parents

*Corrective Teaching Lesson Profile A provides a workable format for this procedure.

CORRECTIVE TEACHING PROCEDURE -- Spelling: An Example

Instructional Objective:

Mary will spell correctly at least 12 of 20 words on the spelling test given on every Friday. Her performance on the weekly test will be recorded in the grade book.

- *What is to be done?*

MATERIALS

Word cards for the spelling words
Paper and pencil

PROCEDURE

1. Pupil given a written pre-test on all words

Steps 2-6 follow one another for each word, then procedure done with the next word on the list.

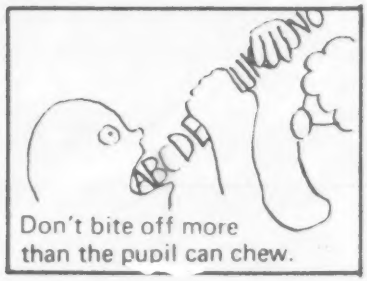
2. Pupil is presented 2 words on flashcard, asked to point to the word named
3. The word is seen, then copied
4. The letters of the word given orally, pupil names the word
5. The word is seen and copied
6. The word is presented orally, pupil spells it orally.
7. After steps 2-6 completed in sequence for all words, a written post-test is given on all words.
8. After a word is spelled correctly on 2 consecutive pre-post tests, only the post-test is used on that word.

- *How many/much is to be done?*
  Do at least 10 words each time.
- *How often is it to be done?*
  Done at least once a day with *all* words.
- *Who is to do it?*
  Another pupil in the class will implement the procedure.

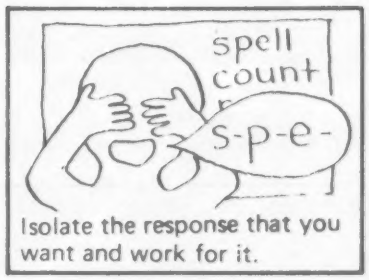
Comments on examples of procedures:

- It will not necessarily work for all pupils as designed.
- Once the procedure is designed, the teacher observes how it works and keeps with it or decides where changes are necessary. But, she does give it a chance to succeed or fail.
- In some cases it will take the pupil two or three lessons to grasp the procedure. Generally, this would not be the case though.
- The pupil is assisted if necessary in learning to make the correct response. For example, the question *does this one look like this?* might be asked in Step 2.
- The criteria established for example, making 5 bs may be increased or decreased depending on the pupil. The criteria is established to provide for sufficient practice and overlearning of content.
- The pupil is reinforced for success!

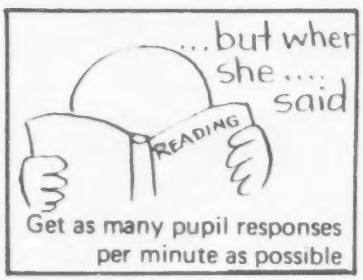
Secrets of developing a successful procedure for corrective teaching:



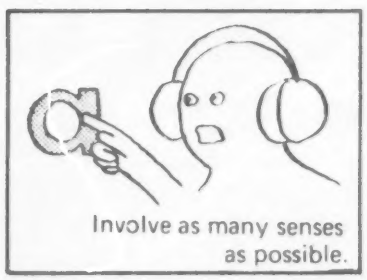
Don't bite off more than the pupil can chew.



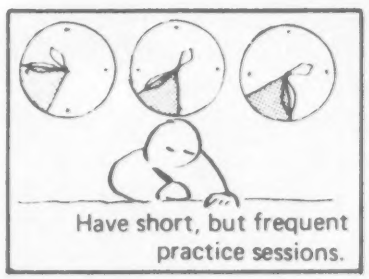
Isolate the response that you want and work for it.



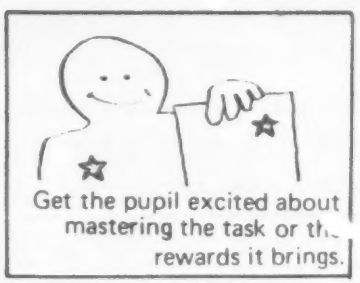
Get as many pupil responses per minute as possible



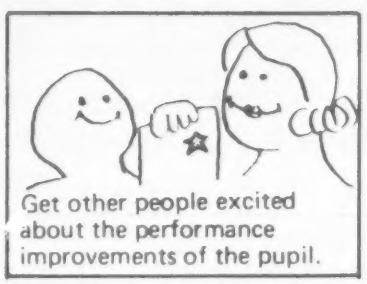
Involve as many senses as possible.



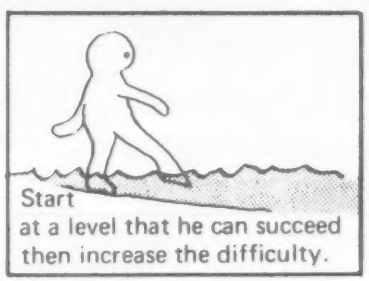
Have short, but frequent practice sessions.



Get the pupil excited about mastering the task or the rewards it brings.



Get other people excited about the performance improvements of the pupil.



Start at a level that he can succeed then increase the difficulty.

Keeping Score -- A Part of the Procedure

Keeping track of the performance of pupils in corrective teaching can present a problem. At the same time knowledge of a child's progress is crucial to good decision making and to the incentive of the child. It becomes even more important if someone else is doing the work with the child because without feedback on the specific responses of the pupil, only verbal impressions are available.

Such phrases as:	Leave the teacher thinking:
He seems to be improving. Fine! Great progress! O.K., I guess. I'm not sure. Today wasn't too good.	I wonder how he's really doing?

A good record keeping system also lets the teacher see many lessons in perspective and not be swayed by one lesson that was very good or very bad.

There are three basic formats that can be used to keep track of pupil progress:

Corrective Teaching Progress Profile
Corrective Teaching Lesson Profile A
Corrective Teaching Lesson Profile B

These charts are placed at the end of this section on single sheets so they can be reproduced. Each chart could be used with a number of different types of corrective teaching programs.

The first format is the Corrective Teaching Progress Profile (page 34).

In looking at the chart the teacher will want to observe:
On the left is a statement of the measurement being used.
A blank is left because the teacher can fill it in to indicate:
percent correct
correct responses per minute

Words read per minute, simple addition problems completed per minute, letters or words written per minute are examples of correct responses per minute. It should be noted that the chart is made to reflect behavior that occurs less than one per minute as do some charts. Most academic behaviors will occur more than one per minute as do some charts. Most academic behaviors will occur more than one per minute during the specific instructional period designed to elicit the specific response. For the behaviors that occur less than one a minute the teacher could record the number of times that it occurred. For example, questions asked during social studies or responses made during language arts class, or the correct use of selected words. It could also be used to record social behaviors that the teachers might wish to record such as times out of seat, refusals to participate or annoying other children. The teacher concerned about social behavior of children might want to review *Modifying Behavior,* SECDC 1970 and *Helping Willie Wantoo,* SECDC 1972. Recording the number of behaviors can be done with this chart, but not the rate of occurrence.

Just below the bottom of the chart is a place for the teacher to designate the month, day and year that information began to be recorded on the performance of the pupil. Since there are 30 columns, the teacher is able to record the performance of 30 days or lessons depending on which is being used. It is assumed that these recordings would be continuous and identification of month and day would permit the teacher to look back at the performance on a given day if the need arose. When pupils are absent the teacher would leave the column blank for that day. This would give her a visual check on interruptions. This is important to insure that a potentially effective design is not aborted because the pupil has not used it on a regular basis.

The last part that would need explanation is Description of Tasks. The teacher simply describes in a couple of words the content that is being worked on. For example, recognition of selected sight words, auditory discrimination of selected sounds, correct use of commas and periods, words read per minute and so on. For a more precise description the teacher could refer to her information on goal statement, analysis of task, instructional objectives or procedure.

Whenever possible let the pupil chart his own performance. It may cause him to work even harder.

The second format is Corrective Teaching Lesson Profile A. This record keeping format is helpful in keeping track of the responses a pupil makes in a procedure that has a number of steps. For example, the procedure discussed earlier on teaching sight and spelling words lends itself to such a format. This format and design are shown on page 35.

As can be seen, the teacher can score the response on each step for each word. The steps followed are stated at the top and the words to the left. Such scoring will help the teacher determine if a step is unnecessary and should be eliminated. It may also give the teacher information on steps that should be broken down into steps or occur more than once in the design. For example, for a specific pupil it may be desireable to have him hear the word and write it near the beginning and also near the end of the procedure.

Any method of scoring could be used to indicate a correct and incorrect response. Since concern exists over change from pre-test to post test performance, space is provided for that computation.

The profile provided for removal and duplication has space for 10 steps and 20 content items. Steps or content items could be added. If steps or content items aren't needed, they would be left blank.

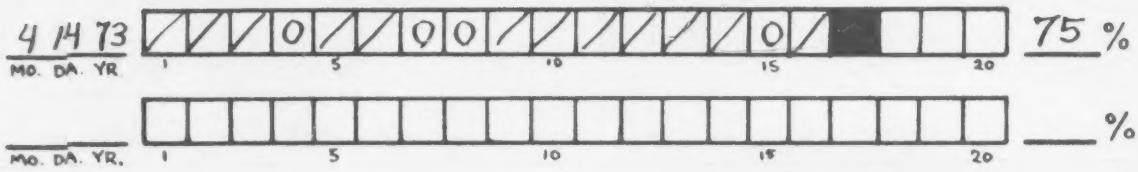
The third format is Corrective Teaching Lesson Profile B, shown on page 36.

This format is useful in recording the accuracy of a pupil to a single step procedure. For example, a teacher working with a pupil on selected math facts with flashcards could record the number of correct and incorrect responses made to the set being used. It could also be used for checking sentences read without error, words recognized, colors named, consonant sounds given when presented the word orally, correct labeling of pictures and so on.

The teacher, using this procedure could replicate the lesson *if* she presented the stimulus materials or words in a predetermined fashion, such as listing the order in which the math flashcards would be used. To analyze the child s performances when someone else presents the material, this would be absolutely necessary. It would require that a simple list be developed or abbreviations written on the profile ahead of time. It would seem that a list would be easier if the content would be presented a number of times.

Profile B has the advantage of letting the teacher review many responses at one time. It also provides an opportunity for easy computation of percent correct. The teacher, if she timed the length of the sessions, could also look at the number of correct responses per minute or sessions, if they were of the same length.

If the teacher used this format, she would want to blacken the square after the last response and begin with a new row the next lesson. For example:

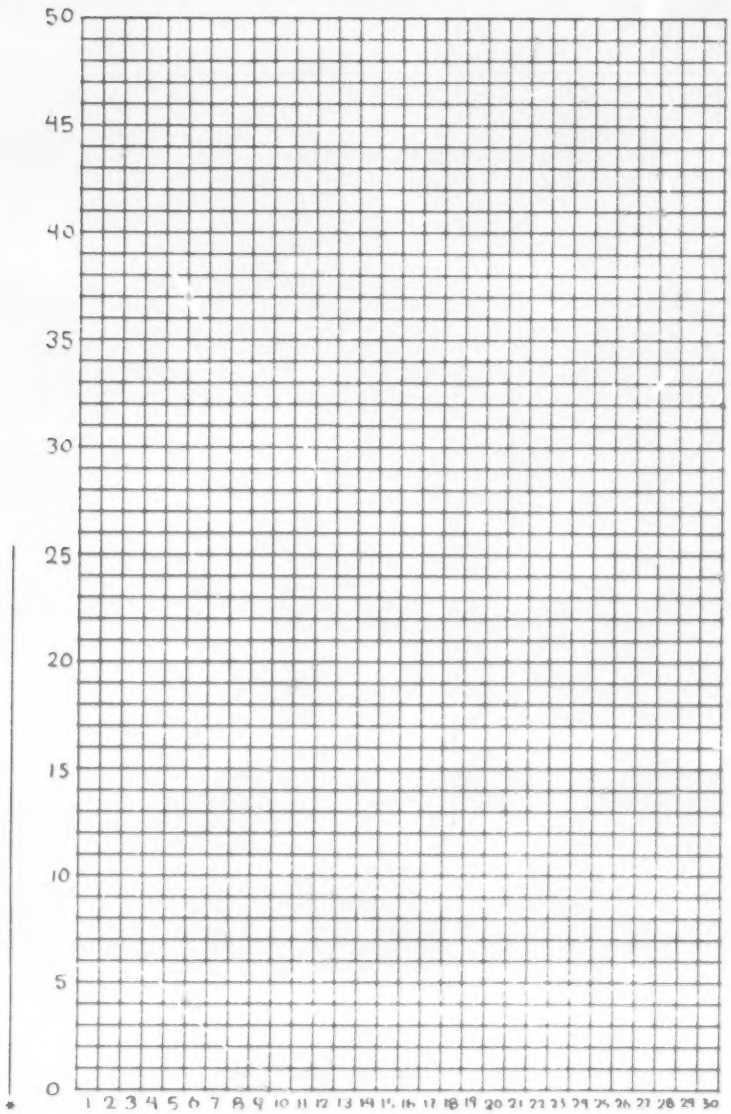


If the task changes the teacher will need to use a new profile sheet or indicate that such a change has taken place. Unless such is done, it could appear that the pupil's accuracy level decreases all of a sudden.

The Pay-off When you Keep Score

You have specific information with which to make decisions.
You have specific information to share with the principal, consultant, psychologist, or parents.
Someone else can work with the pupil and YOU still know what took place.
THE PUPIL GETS FEEDBACK ON HOW HE IS DOING!

CORRECTIVE TEACHING PROGRESS PROFILE



___ ___ ___
mo da yr

Pupil's name _____

Teacher's name _____

Description of tasks: _____

*Fill in with measurement used

CORRECTIVE TEACHING LESSON PROFILE A

pupil _____

task _____ date _____

Item	STEPS: pre-test	discriminate	seen -- copied	letters given - he names words	seen - copied	word heard - spells orally	post-test			
catch										
watch										

pre-test _____% / = correct

post-test _____% O = incorrect

CORRECTIVE TEACHING PROFILE B

pupil _____

task _____

mo da yr ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ ___%

mo da yr ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ ___%

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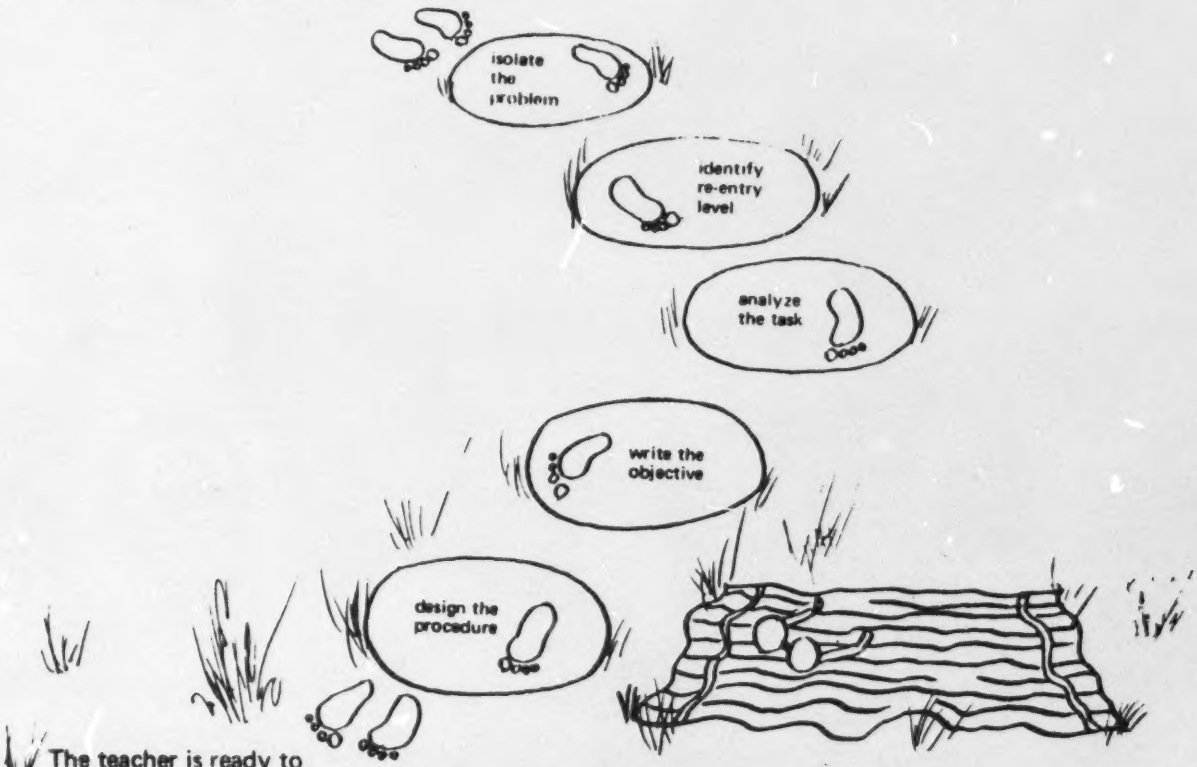
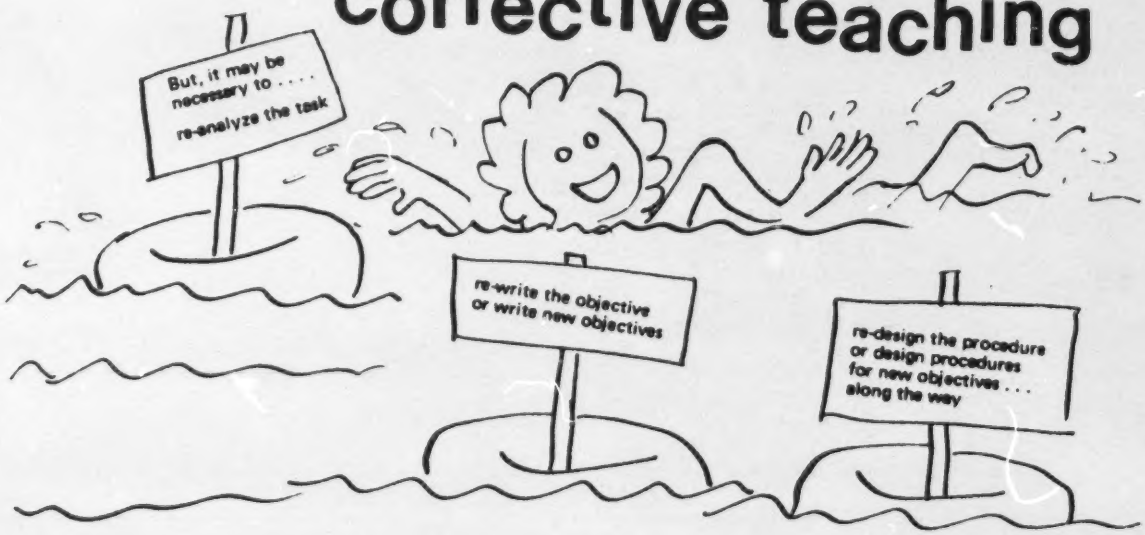
total ____%

Once the steps are completed



The teacher is ready to

implement corrective teaching


But, it may be necessary to . . . . re-analyze the task
re-write the objective or write new objectives
re-design the procedure or design procedures for new objectives . . . along the way

4
Implementation Alternatives

As with any planning, implementation is the goal. The corrective teaching program designed by the teacher can be implemented in one of three ways:

- The teacher can do it all herself.
- The teacher can implement it, but use the services of others.
- The teacher can have all of the instruction done by others with her monitoring the program.

The significant difference in the implementation alternatives is the amount of time the teacher will be devoting to the direct instruction of the pupil. No implementation method will be devoid of demands on the teacher for some commitment of time. However, the alternatives make differing requirements on the teacher for time.

Implementation by the Teacher

Whether the teacher is implementing the entire program or only part, some juggling of her schedule will be necessary if the needed time is to be found. In creating the extra time the teacher may increase the instructional day or rearrange the existing program.

Increasing the instructional day

In some settings, conditions might lend themselves to increasing the amount of instruction offered during the day. This would include:

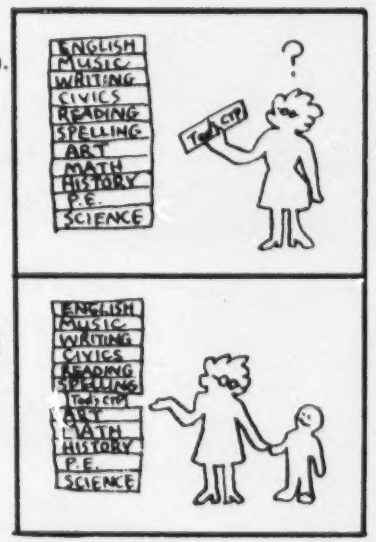
-using the time period between when the learner arrives and the opening of school.

-using the time period between the end of the school day and the time the pupil catches the bus or would ordinarily leave.

-after school arrangements for extra help.

-using a volunteer or teacher associate to assume non-instructional duties so the teacher's time to provide instruction is increased. This could include everything from opening exercises to playground to lunchroom responsibilities.

If the time during the day cannot be increased, then the other alternative would have to be considered.



Rearranging the current program

If stretching the day to increase instructional time does not work, some juggling of the current instructional program will be necessary. To do this, the teacher will have to make decisions on the priorities for the child in need of corrective teaching, priorities for the entire class and ways to systematize her current program.

In doing this, the teacher would have to ask:

- What areas of instruction could best be temporarily eliminated or reduced for the pupil needing corrective teaching? For example, time currently allocated to art, music, p.e., social studies, or library might be suspended to permit time for corrective teaching. It should be apparent that a close examination of the needs and interest of the pupil is necessary if this is to be done.
- In what groups or subjects in the current program could the class function independently for an extra few minutes so the corrective teaching could be done? For example, the teacher might find that the math class could work independently for another five minutes, thus creating extra time. Or, the top reading group could meet for a shorter period of time each day or meet three times a week instead of five. Or, a teacher might decide after re-examining her reading groups that three reading groups would be as effective as the four being used. Media might also be used, such as a tape recorder, to permit pupils to function more independently so corrective teaching could be done.

The teacher wishing to review information on different ways of increasing the amount of instructional time without increasing the length of the day would want to review *The Trainable Child: Preparation for Life* (SECDC 1971). The ideas presented are not restricted to classes for trainable children, but are appropriate for every type of classroom.

Using Others to Help Implement the Program

It is because the teacher does not have a great deal of latitude in increasing or rearranging the day that she would logically look to others for help. This assistance might be a supplement to her efforts or constitute all of the corrective teaching for the pupil. The teacher needs only to survey her surroundings to identify individuals who might be available to work with the pupil. All options would not be available in every case, but some of the following would always be present.

teacher associates	high school students
adult volunteers	other pupils in the class
parents	pupils from other classes
other teachers in the building	college students

Using these resources require an investment on the part of the teacher using them. If they are to do the job for her, they must be oriented to the task that they are to perform. Just telling resource persons what they are to do is not enough though, for they may nod their head because of not wanting to admit that they are confused. Thus, the teacher would want to:

- DESCRIBE WHAT IS TO BE DONE
- DEMONSTRATE WHAT IS TO BE DONE
- HAVE **THEM** DEMONSTRATE WHAT IS TO BE DONE
- IF NEEDED, OFFER SUGGESTIONS AND HAVE THEM DEMONSTRATE AGAIN

Where procedure, record keeping or the use of reinforcement are important, it is crucial that the helper do them correctly. And if the program is well designed it will be important that they be done correctly. As the person helping you works with the pupil the first few times, you may wish to observe the instruction for a few minutes and meet with the person afterward to see if there are questions or to offer suggestions. Once the program is under way, information on the performance of the pupil will help you decide when observations or conferences are needed. A re-orientation will be necessary each time changes are made. As a teacher becomes experienced in working with specific resource persons, orientation to new procedures will become easier.

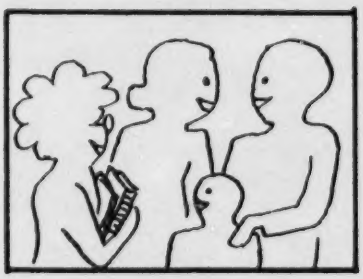
Among the resource persons available would be other pupils in the classroom or school. There are some obvious limitations in the demands that could be placed on these helpers. This becomes more true as younger children are used. As a result, the design for eliciting pupil responses must be simplified. For example, flashcards on factual information could be used more to advantage than the lesson format from a language program. Also, monitoring pupil progress might have to be done by the teacher herself on a periodic basis rather than expecting the pupil to keep score on each session. Procedures that use stimulus cards, pictures or game approaches lend themselves to implementation by younger children. Some helpers, by the time they are in the fifth or sixth grade, may be able to do anything that is required of an adult.

Generally, in using the assistance of others:

- Recruit someone who will be able to assist on a regular basis.
- Prepare them to do what is expected of them.
- Minimize discussion of the problem of the child or the overall purpose of the program--that won't help the individual.
- Start the resource person at a level where the pupil is highly successful--it will be good for both of them.
- Monitor what is being done closely until it is being done correctly by the implementer and the pupil.
- Let your helper know that you appreciate the assistance.

Working with Parents

The importance of the parents in corrective teaching warrants a separate discussion of their possible roles. Undoubtedly, you have had experience with or heard of parents that just could not be worked with. While this may be true in some cases, there are the overwhelmingly larger number of parents who are interested in their child and greatly concerned if he is having problems in school. The most effective way of involving any set of parents will have to be determined by the teacher.



Parents can be involved in corrective teaching in the manner just described. If that role is used the considerations previously mentioned would hold true for them also. However, the teacher may not wish the instruction to be implemented so far from her supervision. In that case, the parents could serve to provide guided practice over content the pupil has learned at school. As you recall, two of the principles of instruction are practice and overlearning.

If the pupil is going to be able to recall the information later, he must practice the task beyond the point where he is correct a few times. And because his peers function at a higher level, the usual overlearning that would routinely occur in the classroom generally would not be available. The parents can serve as a valuable resource in this practice-overlearning function.

In using the home as a resource to strengthen what has been learned in the corrective teaching program, there are some basic strategies. The first strategy is having the pupil perform the same activity as the one done at school or a simplified version of it. That is, if the learner is to write spelling words, recognize words by sight, provide vowel or consonant sounds, do computation mentally or on paper that same activity would be done at home. The main difference would be that the pupil has already been exposed to the content and is performing it correctly at about an eighty-five per cent level of accuracy. Thus, it can be seen that the teacher is building in the opportunity for mastery and at the same time insuring that the home program will be a positive experience for everyone--pupil and parents.

PARENTS PROVIDE PRACTICE AND OVERLEARNING.

The significance of the home program is worthy of discussion because of its potential importance to successful corrective teaching. Children who have been unsuccessful in arithmetic or reading frequently develop a failure set and an aversion to truly investing their energy and ego in an attempt to perform well. This is reasonable in that for them frequent failure is akin to punishment and a technique for avoiding punishment is to avoid the situation in which it occurs. Also, for many children academic failure in a specific area has created less than a positive view of the child as a learner from the perspective of the home. Any corrective teaching program should provide specific feedback to the child so that he will begin to see himself as a learner. However, added impetus is given to the program if the child's progress becomes important to the home and the parents begin to get positively involved in the new success of the child. The child not only sees the tasks that he performs as a challenge that can be mastered, but is also is an opportunity to demonstrate how well he can do to his parents. At that point the corrective teaching program becomes the property of the child. He enjoys his success as a learner and wants it to continue.

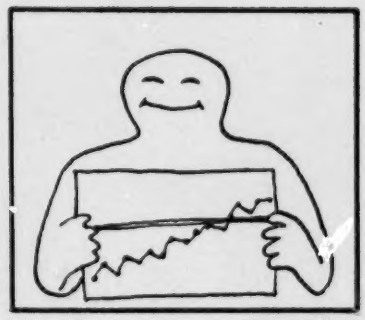
To insure that the potential outcome from home involvement is realized places some requirements on the teacher. The first requirement is that a corrective teaching program is designed, implemented and that it be working before the parents are involved. By operating the program for a week or whatever period of time necessary to accumulate a repertoire of correct responses, the liklihood of the home program being successful is near the 100% level. Once the child is performing at a level where successful home involvement is possible, a commitment must be made not only to establish contact with the home but to continue the communication. No one will be happy if it becomes an on-again-off-again type of arrangement. Notes, weekly telephone calls or scheduled conferences can all serve to keep the channel of communication open. Also, once what is to be done at home is

established it should maintain itself with little difficulty until change is necessary. However, once a teacher chooses to work with parents to help their child and they observe progress, it is not a relationship that they will willingly discontinue.

To this point the parents have been discussed as a active participant in the corrective teaching program, active in that they are implementing part of the program or providing opportunity for practice and overlearning. Recognizing that these roles may not be able to be filled by all parents, there is still another role. That role is simply encouraging the pupil in his efforts in the corrective teaching program. For that role to be filled the parents have to be informed about the progress of their child which means the teacher will have to initiate contact with them. For some parents, this could be the first teacher made contact about successful achievement of the child. Continued teacher-home communication and the creation of a school related topic that could be discussed positively helps to make the corrective teaching program worthwhile to the pupil. It may also lead to future involvement of the parents in a more active role.

5 Evaluating Effectiveness

Of all the professional roles of the teacher, perhaps one of the most critical to pupil learning is evaluation of pupil progress. Unless that role is actively undertaken, energies devoted to increasing academic performance may not result in any real difference in the school success of the pupil. Teacher attention can be inadvertently directed toward attractiveness of materials, mechanics of the program, smoothness of working with parents and so forth. While these *are* important, they are not ends in themselves.



In evaluating a corrective teaching program it must be remembered that corrective teaching is based on the premise that if the pupil is provided skills in which he is deficient, he will be able to re-enter a selected aspect of the instructional program in the regular or special class. Ultimate evaluation then must be based on whether with or without supplementary assistance, the pupil can function in that setting. *Only by returning the pupil to that setting can the ultimate outcome of corrective teaching be evaluated.* An exception to that would occur in instances where return of the pupil to a group setting was not an immediate purpose. In such cases, evaluation would have to be based on whether or not the pupil mastered the skills determined appropriate for him.

Evaluation - What? Why?

Evaluation is a term often given many different meanings. In corrective teaching it is simply comparing pupil performance desired by the teacher with the actual performance of the pupil. When the comparison is made there could be total agreement between teacher expectations and pupil performance or disagreement with pupil performance being higher or lower than teacher expectations. An important thing to note is that results from the evaluation are not positive or negative. The value judgment attached to the results must be supplied by the teacher. This is based on the realization that performance levels specified by the teacher at an earlier date could have been too high or too low. Thus, evaluation is meaningful *only* when the teacher provides an interpretation to the evaluation results. As a teacher becomes more accustomed to projecting individual performance levels and with a specific child, greater congruence should be seen between teacher expectations and pupil performance.

It is what the teacher does with information acquired from the evaluation that counts. Collecting information without using it for instructional decision making turns the entire process into a mechanical exercise. Conversely, making instructional decisions without information from evaluation is at best a hit and miss approach. The kinds of decisions the teacher might make from her interpretation of evaluation results would be, for example, to change materials, increase the number or duration of practice sessions, alter the type of response required of the pupil from oral to written, to work with the pupil herself rather than having others help, or continue with the current design. It should be indicated that the decision not to make modifications is just as important as decisions to make modifications.

Points at which Evaluations are Done

Even though the ultimate purpose is to reinstate the pupil as a learner in a selected setting, evaluation occurs much earlier and is continuous rather than a procedure done once. The necessity for early evaluation is apparent. To wait four months to reach decisions on effectiveness could result in a tremendous waste of time for everyone. Thus, evaluation starts with the smallest unit of corrective teaching and progresses to the largest unit.

The **effectiveness of the procedure** is the first point of evaluation. Here the teacher interprets pupil performance on the procedure to determine if progress is occurring. For example, the teacher might compare pre and post test scores over a week to see what change has occurred. Based on pupil performance related to the objective that is being strived for, decisions to modify the procedure would be made. As mentioned earlier, caution *must* be exercised in changing the procedure before the pupil understands it.

The second point of evaluation is **the objective.** Here the teacher simply determines whether or not the pupil has reached the objective. If not, the teacher would be faced with such decisions as: (1) to continue with the same procedure to accomplish the objective but just to extend the time period, (2) to begin to work on additional objectives, or (3) to accept current functioning as acceptable even though the objective has not been met. If the objective has been accomplished, the teacher is confronted with decisions on which objective or objectives to initiate next and whether or not to use the same general procedure if it is applicable. Evaluation of objectives and accompanying decision making would continue until all objectives related to the goal were completed.

The third point of evaluation is **the goal.** This is a major evaluation point in that the goal supposedly will give reasonably reliable information on the ability of the pupil to be re-entered into a selected group. Here the date of accomplishment, the performance areas and criteria for performance would be evaluated. In some cases, the teacher would decide that the pupil's skills have not increased sufficiently for him to be returned to the group setting and the special help is to be continued. In other cases, the teacher might find that the pupil only approaches mastery of the goal, *but* she wishes to try re-entry because likelihood of success

seems great. Flexibility in making that type of decision is important as there are numerous variables related to successful re-entry, some of which would be more crucial to re-entry than others. Also, even with the most sophisticated attempts at preciseness, a social setting such as a group is dynamic and prohibits total exactness.

The final point of evaluation is **the selected group setting to which the pupil has been returned.** Here the teacher looks to see if the pupil is able to perform at least at the same level or reasonably close to the same level as the lowest functioning member of that group. Many pupils may need supplemental assistance as they are returned to the group setting. The reason could be either the need for continued academic remediation or the personal support that the pupil desires. In the latter situation a phasing out of supplemental assistance at school could be done with possibly assistance at home being continued. The crucial point is that at the re-entry level, as throughout corrective teaching, the teacher is a decision maker and evaluates so that she can make the best instructional decisions possible.

6 To Make Corrective Teaching Easier

1. Materials are an important part of corrective teaching, use the resources of your Regional Educational Media Center.

2. While at your Media Center, use the Prescriptive Materials Retrieval System (Select-Ed System) to locate appropriate materials available at the building level.

3. Previous SECDC documents will be helpful. They are available at your Media Center.

4. Consultants, psychologists, clinicians and other special service personnel can be of great help -- USE THEIR SERVICES.

5. Social skills are important for re-entry also, don't overlook them.

6. For good returns -- Invest in Planning.

7. Likelihood of successful re-entry is aided by keeping the pupil with the group in performance areas in which he is successful.

8. Don't expect short term miracles -- the more severe the learning problem, the more difficult the remediation.

9. Implement the procedures first over a small time period and with a mild problem, that will give practice and feedback to you. Your success is important, also.

7
References

Karnes, Merle B., & Zehrbach, R. Reid. Flexibility in Getting Parents Involved in the School. *Teaching Exceptional Children,* Vol. 5 No. 1, (Fall, 1972), 6-19.

Benson, Jo, & Ross, Linda. Teaching Parents to Teach Their Children. *Teaching Exceptional Children,* Vol. 5 No. 1 (Fall, 1972), 30-35.

These two articles deal with involving parents in the school program to increase the learning of their children. Specific examples of using parents to work with their children are given including the format used by the authors. An extensive bibliography provides a starting point for anyone wishing to research further the use of parents in school programs.

Beker, Wesley C.; Engelmann, Siegfried; & Thomas, Don. *Teaching: A Course in Applied Psychology.* Chicago: Science Research Associates, Inc., 1971.

Haring, Norris G., & Phillips, E. Larkin. *Analysis and Modification of Classroom Behavior.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1972.

Valett, Robert E. *Modifying Children's Behavior, A Guide for Parents and Professionals.* Palo Alto, California: Fearon Publishers, 1969.

The three references above provide good sources for the reader wishing to obtain more information on the concepts inherent in the teaching approach discussed in this publication. The publication by Haring and Phillips would have greater direct application for those interested in academic functioning. Valett provides material more applicable for use with parents and volunteers although its emphasis is more social than academic.

U.S. Office of Education. *Correcting Reading Problems.* Putting Research into Educational Practice Report No. 4, (ED 034 080).

U.S. Office of Education. *Research on Elementary Mathematics.* Putting Research into Educational Practice Report No. 11, (ED 030 017).

U.S. Office of Education. *Treating Reading Disabilities.* Putting Research into Educational Practice Report No. 5, (ED 034 081).

Corrective Teaching would most often be used with children with learning problems in the areas of arithmetic and reading. Crucial to successful corrective teaching is a teacher knowledgeable about procedures in those two content areas. The above documents provide in relatively brief form the most current research information on the topics of reading and arithmetic. They are

written specifically for the professional in the field. They are available on loan to Iowa teachers from their Regional Education Media Center. Also, most centers are able to provide the information on microfiche (a simpler form of microfilm) when requested by the letters and numbers shown in parenthesis. Teachers and students would also be able to secure the material on microfiche at Drake University (Des Moines), Iowa State University (Ames), University of Iowa (Iowa City), and University of Northern Iowa (Cedar Falls) libraries.

Eden, Kathleen; Green, Jean S. and Hansen, Janice. *Auditory Training: A Guide for Teachers of the Handicapped.* Des Moines, Iowa: Iowa Department of Public Instruction; Iowa City: U of I SECDC, September 1972.

Frank, Alan P. *Classroom Interest Centers.* Des Moines: Iowa DPI; Iowa City: U of I SECDC, December 1971.

The above SECDC documents would seem to be most helpful to the teacher undertaking corrective teaching. Both documents provide specific programs that can be used with children with learning problems, thus requiring a lesser investment of teacher time in designing the remedial activities. Another SECDC publication, *Improving Visual Skills* (March 1973), would also be helpful to the teacher. Teachers not having personal copies of previous SECDC materials may borrow these from their Regional Educational Media Center.

SECDC. *Language Development Activities for the Educable Mentally Retarded.* Des Moines: Iowa Department of Public Instruction; Iowa City: SECDC U of I, April 1970.

SECDC. *The Trainable Child: Preparation for Life.* Des Moines: DPI, Iowa City: SECDC, October 1971.

Mock, Sherry. *Improving Reading Comprehension.* Des Moines: DPI; Iowa City: SECDC, April 1972.

The three SECDC documents above do not offer remedial programs as do those previously mentioned. However, they do offer specific activities from which the teacher might choose in developing her own remedial program. *The Trainable Child* offers suggestions on organizing the classroom environment to increase teacher time and on using the home as a resource; content is also applicable to teachers working with higher functioning children. These may also be borrowed from the Regional Educational Media Centers.

Dublinske, Stan. Instructional Objectives in Speech Pathology. *Journal of Iowa Speech and Hearing Association.* Polk County Board of Education, Spring 1971, 15-21.

This reference is unique in that it is a learning package designed to teach the writing of instructional objectives as discussed in this document. While designed initially for speech clinicians other special service personnel and teachers would find the material beneficial.

Caster, Jerry A.; Dublinske, Stan; and Grimes, Jeff. *Increasing Intervention Effectiveness Through Improved Communication.* Des Moines: Iowa DPI; Iowa City: SECDC, February 1972. 1-12.

Many of the ideas and concepts presented in *Corrective Teaching* are extensions of those presented in this reference. The level of emphasis is on special service personnel rather than the classroom teacher, but stresson planning, evaluation and measureable child change remain the same.